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THE

BOOK OF KNOWLEDGE:

OR

INTERESTING FACTS

IN

ASTRONOMY, CHEMISTRY, GEOLOGY, HISTORY, PHYSIOLOGY, AGRICULTURE, DOMESTIC ECONOMY,
MECHANIC ARTS, &c., &c.

EDITED BY

COTESWORTH PINCKNEY,

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1851.

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PREFACE.

IF it be true that "knowledge is power," then he who neglects to provide himself with this element of moral strength, should not complain if he be compelled to eat the fruit of his own imbecility. Almost every variety of learning is scattered broadcast over the land, and it only needs the diligent and observant student to cull and preserve the choice gems, so liberally strewed in his path. One of the most popular and effective writers and lecturers, upon scientific subjects, in the metropolis of New England, has made himself so, mainly by his diligent habit of preserving and arranging the various items of knowledge which have from time to time, fallen in his way. How much valuable information might be secured every year, from any well conducted newspaper, if pains were taken to preserve and arrange the valuable articles therein contained. In this miniature Book of Knowledge, it cannot, of course, be expected that there will be long and elaborate treatises upon scientific subjects; but we trust our articles are of a such length, and of such a character, that while the busy shall find sufficient time to read them, the idle may muster patience. While they are not such as to demand severe thought or patient inquiry, yet they embrace many important facts in late discoveries which are both instructive and entertaining. The field, over which we have roamed, is both beautiful and boundless. We catch a glance at Astronomy, with its far off worlds; and at Geology, which every day brings up fresh wonders from the depths of the mine, or caves of the deep; and at Chemistry, acquainting us with the various elements and properties of material bodies. — There too is Botany, with its wild flowers and its gardens of beauty and bloom. There is Electricity, showing us how, with Franklin, we may "grasp the lightning's fiery wing." There is Physiology, unfolding to us the structure of the inferior tribes, and the mechanism of our own frame, so "fearfully and wonderfully made." These, and kindred themes, whose tendency is to refine the taste, exalt the imagination, and instruct the intellect, are the topics embraced in the following pages.

C. P.

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THE

BOOK OF KNOWLEDGE.

ECLIPSES AND COMETS.

THE sun and moon are sometimes darkened and obscured, and partly or wholly hidden from our view, by the intervention of some opaque body, which casts its shadow upon them. This is called an *Eclipse.* The earth, the moon, and all the planets, are what are called opaque bodies: that is to say, they are dark, and do not shine by any light of their own, but owe all their brilliancy to the sun, which only shines *on* them and not *through* them.

A *lunar eclipse*, or an eclipse of the moon, is occasioned as follows:—When the earth, in its revolution round the sun, in which it is accompanied by the moon, is placed between the sun and the moon, the latter is darkened or *eclipsed*, because it is hidden in the shadow of the earth, just as a picture or a looking-glass would be hidden if we we were to pass between it and a lighted candle in a room at night. This eclipse never happens but when the moon is full.

A *solar eclipse*, or eclipse of the sun, is caused by the opaque body of the moon intervening between the earth and the sun. The dark body of our satellite, as the moon is called, thus hinders us from receiving a portion of the sun's rays, and we, on whom her shadow falls, consequently see the dark outline of her form on the disk of the sun.

The earth is never completely darkened by an eclipse of the sun, because the latter orb is so much larger than the moon. A great part of the sun's face is, however, occasionally hidden from us, and sometimes we can see nothing of it beyond a bright ring, when the eclipse is called *annular*. This happens when the entire body of the moon is placed directly before the sun, and the bright ring we observe is the margin of the sun's disk, which the moon is too small to cover completely. During these *total eclipses*, as they are called, night seems to be coming on, and the stars are visible in the firmament.

Comets, which are also mentioned in our Almanacs, form a part of the Solar System, by which we mean the series of heavenly bodies, which, owing their light to the sun, pursue a fixed and undeviating course around that glorious luminary.

Comets differ from the other planets, or moving stars, in the course they take round the sun. All the other planets, with which we are acquainted, proceed from west to east, but some comets have a direct, and others a backward motion.

A circumstance which renders the appearance of comets remarkable, is, that they are accompanied by a train of light, called the tail. This appearance is the more striking, the nearer they approach the sun, and becomes fainter and fainter in proportion as they remove from it.

The shape of the tails of comets is various. This difference arises from the position in which the comet is placed with regard to the earth. Thus, if the comet be eastward of the sun, the light precedes or goes before the nucleus, or body of the comet is then said to be *bearded;* when the comet is westward of the sun, the train of light follows it, and then it is said to be *tailed;* and when the comet is directly opposite the sun, and with the earth between them, it is said to be *haired;* because a few rays only are visible.

Comets perform a fixed and certain revolution round the sun, in definite periods, but the form of their orbits, or paths, is very different from that of the planets; in consequence of which they are sometimes much nearer to the sun than the earth is, and at other times many hundred times more distant. The periodical revolutions of several comets have been ascertained by astronomers. One of these, which was first discovered in the year 1532, is seventy-five years in making its revolution. A second comet appeared in the year 1532, and did not return till 1661, thus taking one hundred and twenty-nine years to perform its revolution. A third comet was first noticed in 1680, and it has been calculated that it will not be visible again for five hundred and seventy-five years. Another comet was discovered in 1826, and this performs its revolution round the sun in six years and three quarters, and reäppeared in 1832. Halley's comet, discovered in 1682, first reäppeared in 1759, and again in 1835.

Many people imagine that comets may sometimes strike against the other planetary bodies, because they have to cross the orbits of these bodies, in their progress round the sun. But this fear can arise only from a want of knowledge. Comets move in fixed and certain courses, appointed by the Creator, as much as our earth, or the moon, or any of the planets. Having learned how beautifully and how regularly all these move in their separate courses, we may feel assured that comets have their appointed places, and in nowise interfere with the rest of the system of which they form a part.

All the discoveries of science tend to prove, that the most admirable order reigns in all the works of the great Creator; and although the human intellect may be unable to fathom or comprehend the rules by which he governs them, still it is a crime in us to doubt his wisdom, by looking on any of his productions as the causes of calamity, as comets were looked upon by ignorant and superstitious people, in former times.

In reading old chronicles or histories, we sometimes find mentioned wonderful appearances in the heavens. They were believed to portend war, famine, and pestilence, and filled nations with fear. These appearances were generally comets, respecting which little or nothing was then known, and as tails, or trains, assumed different shapes, as we have just described, they were fancied to represent swords, spears, and other instruments of war. Astronomy has, however, put an end to these groundless and foolish notions, by teaching us something more certain about comets. Now we view them as parts of the Solar System, affording new proofs of the power, the wisdom, and the goodness of almighty God.

He gives and guides the sun's attractive force,
And steers the planets in their silver course;
With heat and light revives the golden day,
And breathes his spirit on organic clay;
With hand unseen directs the general cause,
By firm, immutable, immortal laws.

THE ATMOSPHERE.

The atmosphere rises above us with its cathedral dome arching towards the heavens, of which it is the most familiar synonyme and symbol. It floats around us like that grand object which the apostle John saw in his vision: "a sea of glass like crystal." So massive is it that when it begins to stir, it tosses about great ships like playthings, and sweeps cities and forests like snow-flakes to destruction before it; and yet it is so mobile, that we have lived years in it before we can be persuaded it exists at all; and the great bulk of mankind never realize the truth that they are bathed in an ocean of air. Its weight is so enormous that iron shivers before it like glass, yet a soap-ball sails through it with impunity, and the tiniest insect waves it with its wings. It ministers lavishly to all the senses. We touch it not, but it touches us ; its warm south wind brings back color to the pale face of the invalid ; its cool west winds refresh the fevered brow, and make the blood mantle in our cheeks ; even its north blasts brace into new vigor the hardened children of our rugged clime. The eye is indebted to it for all the magnificence of sunrise, the full brightness of mid-day, the chastened radiance of the gloaming, and the clouds that cradle near the setting sun.—But for it the rainbow would want its triumphal arch, and the winds would not send their fleecy messengers on errands round the heavens. The cold ether would not shed its snow-feathers on the earth, nor would drops of dew gather on the flowers. The kindly rain would never fall—hail, storm nor fog diversify the sky. Our naked globe would turn its tanned, unshadowed forehead to the sun, and one dreary, monotonous blaze of light and heat dazzle and burn up all things. Were there no atmosphere, the evening sun would in a moment set, and, without warning, plunge the earth in darkness. But the air keeps in her hand a sheaf of his rays, and lets them but slowly through her fingers, so that the shadows of evening gather by degrees, and the flowers have time to bow their heads, and each creature space to find a place of rest and nestle to repose. In the morning, the garish sun would, at one bound, burst from the bosom of night, and blaze above the horizon; but the air watches for his coming, and sends at first but one little ray to announce his approach, and then another, and bye-and-bye a handful — and so gently draws aside the curtain of night, and slowly lets the light fall on the face of the sleeping earth, till her eyelids open, and, like man, she goeth forth again to her labor until evening. — *London Quarterly Review.*

JANUARY.

Civilized nations in general now agree to begin reckoning the new year, from the first of January. Yet it may seem strange to call that a new season when everything is most inactive and lifeless — when animals are benumbed by the cold, and vegetables are all dead or withered. For this reason, some have thought it best to begin the year in spring, when the face of nature is really renewed. But as this happens at different times in different years and climates, it has at length been determined to date the commencement of the year, as at present, within a few days after the winter solstice, or shortest day. This always takes place on the 21st of December; and from that time the days are gradually lengthened till the middle of summer: so that the year may properly be said to be now turned.

January, which now stands the first in the calendar, was so placed by Numa Pompilius, when he added it, together with February, to Romulus's year: its name is supposed to be derived from the Latin word *janua*, a gate; and as Janus was considered by the Romans to preside over the gates of heaven, the name of the month is supposed to have reference to the opening of a new era, or renewal of time. The Saxons denominated this month "*Wolf-monat*; because people were always, in that month, more in danger of being devoured by wolves than in any season else of the year; for that through the extremity of cold and snow, those ravenous creatures could not find other beasts sufficient to feed upon."

FROST, ICE, SNOW.

Nothing can be more wonderful than the effects of frost. To see the running stream stopped in its course — the lake, that was curled by every breeze, converted into a firm plain — the moist ground dried up, and made as hard as a rock; and all this done by an invisible power, in the space of a single night, would be infinitely surprising to one unaccustomed to the sight.

Water, when frozen, is expanded: that is, takes up more room than before: hence, ice is lighter than water, and swims upon it. From this cause, if a bottle full of water hard-corked, be set to freeze, the bottle will be broken for want of room for the expansion of the water. Water-pipes often burst from the same cause, and hoops fly off from barrels; nay, even a gun-barrel or a cannon, filled with water, and screwed up at the muzzle, has been burst in an intense frost.

The same property produces a very beneficial effect to the husbandman; for the hard clods of the ploughed fields are loosened and broken to pieces by the swelling of the water within them when frozen. Hence the earth is crumbled, and prepared for receiving the seed in spring.

Snow is the water of clouds, frozen: on a close examination, it is found to be all composed of icy darts or stars. Its whiteness is owing to the small particles into which it was divided. Ice, when pounded, becomes equally white. Snow is very useful, by covering the plants, and protecting them from the severity of the frost; for, at a certain depth under the snow, the cold always continues the same.

INTERESTING FACTS IN EVAPORATION.

The reciprocal processes of evaporation and condensation are the means whereby the whole surface of that part of the globe which constitutes land is supplied with the fresh moisture and water necessary to sustain the organization and to maintain the functions of the animal and vegetable world. Thence sap and juice are supplied to vegetables, and fluids to animals; rivers and lakes are fed, and carry back to the ocean their waters, after supplying the uses of the living world.

The extensive surface of the ocean undergoes a never ceasing process of evaporation, and dismisses into the atmosphere a quantity of pure water proportionate to its extent of surface and temperature of the air above it, and to the state of that air with respect to saturation. This vapor is carried with currents of air through every part of the atmosphere which surrounds the globe.

When by various meteorological causes the temperature of the air is reduced, it will frequently happen that it will come below that limit at which the suspended vapor is in a state of saturation. A deposition or condensation will therefore take place, and rain or aqueous clouds will be formed. If the condensed vapor collect in spherical drops, it will be precipitated, and fall on the surface of the earth in the form of rain; but, from some unknown cause it frequently happens that, instead of collecting in drops, the condensed vapor is formed into hollow bubbles, enclosing within them a fluid lighter, bulk for bulk, than the atmosphere. These bubbles are also found to have a repulsive influence on each other, like that of bodies similarly electrified. They float, therefore, in the atmosphere, their mutual repulsion preventing them coalescing so as to form drops. In this state, having by the laws of optics a certain degree of opacity, they become distinctly visible and form clouds.

The vapor suspended in the air during a hot summer's day is so elevated in its temperature as to be below the point of saturation, and therefore, though the actual quantity suspended be very considerable, yet, while the air is capable of sustaining more, no condensation can take place; but in the evening, after the sun has departed, the source of heat being withdrawn, the temperature of the air undergoes a great depression, and the quantity of vapor suspended in the atmosphere, now at a low temperature, first attains and subsequently passes the point of saturation.

A deposition of moisture then takes place by the condensation of the redundant vapor of the atmosphere, and the small particles of moisture which fall on the surface, coalescing by their natural cohesion, form clear pellucid drops on the surface of the ground, and are known by the name of *dew.*

The clouds in which the condensed vesicles of vapor are collected, are affected by an attraction which draws them toward the mountains and highest parts of the surface of the earth. Collected there, they undergo a change by which they form into drops, and are deposited in the form of rain; and hence, by their natural gravitation, they find their way through the pores and interstices of the earth, and in channels along its surface, forming, in the one case, wells and springs in various parts of the earth, where they find a natural exit, or where an artificial exit is given to them, and, in the other case, obeying the form of the surface of the country through which they are carried, they wind in narrow channels, first deepening and widening as they proceed, and are fed by tributary streams until they form into great rivers, or spread into lakes, and at length discharge their waters into the sea.

The process of evaporation is not confined to the sea, but takes place from the surface of the soil, and from all vegetable and animal productions. The showers which fall in summer, first scattered in a thin sheet of moisture over the surface of the country, speedily return to the form of vapor, and carry with them, in the latent form, a quantity of heat, which they take from every object in contact with them—thus moderating the temperature of the earth, and refreshing the animal and vegetable creation.

A remarkable example of evaporation on a large scale is supplied by that great inland sea, the Mediterranean. That natural reservoir of water receives an extraordinary number of large rivers, among which may be mentioned the Nile, the Danube, the Dnieper, the Rhone, the Ebro, the Don, and many others. It has no communication with the ocean, except by the straits of Gibralter, and there, instead of an outward current, there is a rapid and never-ceasing inward flow of water. We are, therefore, compelled to conclude that the evaporation from the surface of this sea carries off the enormous quantity of water constantly supplied from these sources. This may, in a degree, be accounted for by the fact that the Mediterranean is surrounded by vast tracts of land on every side except the west. The wind, whether it blow from the south, the north, or the east, has passed over a considerable extent of land, and is generally in a state, with respect to vapor, considerably below saturation. These dry currents of wind, coming in contact with the surface of the Mediterranean, draw off water with avidity, and passing off, are succeeded by fresh portions of air, which repeat the same process.

THE SOURCE OF THE MISSISSIPPI.

THE Mississippi rises in the northern part of the Territory of Minnesota in Lake Itasca. This lake is situated in lat. 47d. 13m. 35s. N., lon. 95d 2m. W. The elevation of this lake above the Gulf of Mexico, is about 1575 feet, The length of the Mississippi is estimated at 2890 miles. Within a circuit of less than one hundred miles around the source of the Mississippi, rivers arise which find outlets in Hudson's Bay, to the North, the St Lawrence on the East, and the Gulf of Mexico at the South. Indeed, there are, in the vicinity, springs within a few feet of each other, whose waters are discharged into rivers, the outletr of which are some six thousands miles apart. The Mississippi itself, runs North at first, and then East, as if in doubt which course to take, but finally, in the language of a Western traveller, "turns its course towards the sunny South, as if in scorn of the royal government ruling the soil washed by the Hudson Bay and the St. Lawrence river, and makes her way through the heart of our Republic, to the Gulf of Mexico." The river is navigable continuously for steamboats to the Falls of St. Anthony, a distance of about two thousand miles. It is also navigable for steamboats for a considerable distance above these falls, and a boat has, we believe, already been constructed for that purpose.

INSECT LIFE.

Professor Agasiz says more than a lifetime would be necessary to enumerate the different species of insects, and describe their appearances. Meiger, a German, collected and described 6,000 species of flies, which he gathered in a district ten miles in circumference. There have been collected in Europe, 27,000 species of insects, preying on wheat. In Berlin, two professors are engaged in collecting, observing and describing insects and their habits, and already they have published five large volumes upon the insects which attack forest trees!

WASHINGTON'S PERSONAL HABITS.

At the celebration of the fiftieth anniversary of the inauguration of Washington as President, Mr Stuyvesant, who presided at the dinner table, gave the following account of the private habits of that great man, which we are sure will be read with interest.

George Washington. — His example was perfect. Severe will be the condemnation of him who seeks his place and disregards the authority of that example.

Mr. Stuyvesant accompanied his toast with some remarks containing interesting allusions to the private habits and character of Washington, in substance as follows:

It cannot be expected at this time and place that any allusion should be made to the public character of Washington; we are all in possession of his history, from the dawn of life to the day that Mount Vernon was wrapped in sable; and after the exercise of this morning, if any attempt to portray his political or military life were made, it would only be the glimmering light of a feeble star succeeding the rays of a meridian sun.

But the occasion affords the opportunity of congratulating the small number of gentlemen present, who enjoyed in the privilege of participating in the ceremonies of the 30th of April 1789; they will recal to their memeries the spontaneous effusions of joy that pervaded the breasts of the people, who on that occasion witnessed the organization of a constitutional government, formed by intelligent freemen, and consummated by placing at its head the man in whom their affections were concentrated as the father of their country.

Washington's residence in this city after his inauguration was limited to about two years. His deportment in life was not plain, nor was it at all pompous, for no man was more devoid of ostentation than himself; his style, however, gave universal satisfaction to all classes in the community; and his historian informs us, was not adopted for self-gratification, but from a devotion to his country's welfare. Possessing a desirable stature, an erect frame, and, superadded, a lofty and sublime countenance, he never appeared in public without arresting the reverence and admiration of the beholder; and the stranger who had never before seen him, was at the first impression convinced it was the President who delighted him.

He seldom walked in the street—his public recreation was riding. When accompanied by Mrs. Washington he rode in a carriage drawn by six horses, with two outriders who wore rich livery, cocked hats with cockades, and powder. When he rode on horseback, he was joined by one or more of the gentlemen of his family, and attended by his outriders. He always attended divine service on Sundays; his carriage on those occasions contained Mrs. Washington and himself, with one or both of their grandchildren, and was drawn by two horses, with two footmen behind; it was followed by a post chaise, accommodating two gentlemen of his household.—On his arrival in the city, the only residence which could be procured was a house in Cherry St., long known as the Franklin family mansion, but in a short time he removed to and occupied the house in Broadway now Bunker's Hotel.

Washington held a levee once a week, and from what is now recollected, they were generally well attended, but confined to men in public life, and gentlemen of leisure: for at that day it would have been thought a breach of decorum to visit the President of the United States in dishabille.

The arrival of Washington in 1789, to assume the reins of goverment, was not his first entry into this city, accompined with honor to himself and glory to his country. It was on the 24th of November, 1783; and here again I must observe the ceremonies of that day must be very limited; on that day he made his triumphal entry, not to sway the sceptre, but to lay down the sword; not for personal aggrandizement, but to secure the happiness of his countrymen. Early in the morning he left Harlem and entered the city through what is now called the Bowery; he was escorted by cavalry and infantry, and a large concourse of citizens on horseback and on foot, in plain dress; the latter must have been an interesting sight to those of mature age who were capable of comprehending their merit. In their ranks were seen men with patched elbows, odd buttons on their coats, and unmatched buckles on their shoes; they were not, indeed, Falstaff's company of scarecrows, but most respectable citizens, who had been in exile and endured privations we know not of, for several long and tedious years.

On that occasion, and on his arrival in 1789, Washington was received, as is well known, by the elder Clinton, who was at both periods Governor of the State.—*N. Y. Paper.*

WONDERS OF RAILWAY MANAGEMENT.

Your London tradesman seats himself in a first-class carriage at Euston-square, at five o'clock in the evening, with the luxury of easy cushions to rest upon, the softest and warmest of rugs for his feet, and a lamp throwing its softened light from above over the whole interior. Even ventilation is not lost sight of as another essential comfort. Six hours afterwards he finds himself seated at supper at his hotel in Manchester. Next day, he takes a run through our manufacturers' or merchants' warehouses; selects a bale of goods here, and, perhaps, five or ten elsewhere; dines at three or four o'clock; is in the express train, with his face towards London, by a little after five again; sleeps at home, after a jaunt of nearly 400 miles, and an absence of only about thirty hours, without the loss of a night's rest. The next morning, when he visits his establishment in London — say at nine o clock — he finds the fabrics which he had finished selecting at Manchester the evening before; no matter whether at one warehouse or fifty, and without regard to weight, whether five hundred pounds, or fifty or one hundred tons, lying at his shop door. If the mention of a reality so extraordinary as this, fails to awaken thought akin to those excited by the story of Aladdin's wonderful lamp, it may be questioned whether the reader, could he have all the details, all the machinery, all the activity of mind and body, all the skill and ingenuity which have been at work in the interval of fifteen to seventeen hours, in the packing, transport and delivery of these goods, placed before him at a glance, would not marvel more at the bare facts thus revealed than even at the extravagancies of eastern romance. Were these goods endowed with power to look after themselves, to walk to the station, take their tickets and their places in the wagons, and unload and deliver themselves at their journey's end, the wonder would not appear so great; but when it is recollected that a bale of good is so much inert matter, depending for its safety in care, in packing, on a simple label, and the intelligence brought to bear upon it in every direction where it passes — that it is one of six or seven thousand packages which pass through the company's hands every day, and that whatever accident attends it, — whether it be left at a wrong station, misdirected, overcharged, lost or stolen — there must be such an account kept of it and recorded in the Company's books, that the superintendent of the department may be able to put his fingers upon it and say almost at once where the error originated, and who is to blame; and if this were not done, in less than two days the whole business of the Company would be thrown into a mass of inextricable confusion; a glimmering idea may be formed of the feat which has to be accomplished, and which, regular as clock-work, almost, is accomplished.

ADVANTAGE OF A BOOK.

Of all the amusements which can possibly be imagined for a hard working man, after his daily toil, or in its intervals, there is nothing like reading an entertaining book—supposing him to have a book to read. It calls for no bodily exertion, of which he has had enough, or too much. It relieves his home of its dullness and sameness, which in nine cases out of ten, is what drives him out to the ale-house, to his own ruin and that of his family. It transports him into a livelier and gayer and more diversified and interesting scene, and while he enjoys himself there he may forget the evils of the present moment fully as much as if he were ever so drunk, with the great advantage of finding himself next day with the money in his pocket, or at least laid out in the real necessaries and comforts for himself and his family, and without a headach. Nay, it accompanies him to his next day's work, and if the book he has been reading be anything above the very idlest and lightest, gives him something to think of besides the mere mechanical drudgery of his every-day occupation—something that he can enjoy while absent, and look forward with pleasure to return to. But supposing him to have been fortunate in the choice of his book, and to have alighted upon one really good and of a good class, what a source of domestic enjoyment is laid open! what a bond of family union! He may read it aloud, or make his wife read it, or his eldest boy or girl, or pass it round from hand to hand. All have the benefit of it; all contribute to the gratification of the rest, and a feeling of common interest and pleasure is excited. Nothing unites people like companionship in intellectual enjoyment. It furnishes to each the master-key by which he may avail himself of his privilege as an intellectual being, to—

> "Enter the sacred temple of his breast,
> And gaze and wander there a ravished guest—
> Wander through all the glories of the mind,
> Gaze upon all the treasures he shall find."

And while thus leading him to look within his own bosom for the ultimate sources of his happiness, warns him at the same time to be cautious how he defiles and desecrates that inward and most glorious of temples.

MERCURY freezes at thirty-eight degrees below 0, Fahrenheit, and becomes a solid mass, malleable under the hammer.

CHRISTIANITY NOT OF HUMAN ORIGIN.

To me, when I look at this religion, taking its point of departure from the earliest period in the history of the race; when I see it comprising all that natural religion teaches, and introducing a new system in entire harmony with it, but which could not have been deduced from it; when I see it commending itself to the conscience of man, containing a perfect code of morals, meeting all his moral wants, and embosoming the only true principle of economical and political science; when I see in it the best possible system of excitement, and restraint for all the faculties; when I see how simple it is in its principles, and yet, in how many thousand ways it mingles in with human affairs, and modifies them for good, so that it is adapted to become universal; when I see it giving an account of the termination of all things, worthy of God and consistent with reason; to me, when I look at these things, it no more seems possible that the system of Christianity should have been originated or sustained by man than it does that the ocean should have been made by him.

Pres. Hopkins.

ORIGIN OF THE WORDS WORSTED, KERSEYMERE, LINSEY-WOLSEY, &C.

WHILE Edward III, in 1337, repeated his invasion of Scotland, and ravaged the country with great fury, "burning Aberdeen and many smaller towns," as the historians tell us; and while he was engaged in raising an army to invade France in 1338, exacting from the impoverished English people all their wealth to waste in war; and when he was wasting France with war, and borrowing money from all foreign princes who would lend to him, pawning the English crown, which made him a king, that he might still farther extend destruction over devoted France; when, in the battles which our historians and poets have so minutely recorded, and loftily sung of, swords clashed with swords, and battle-axes rung upon coats of mail; the warrior heroes of England, mingled their blood and hacked heads with the blood and hacked heads of the warrior heroes of France, there was a servant of mankind making a noise in Bristol, which was of infinitely greater service to England than the entire conquest of Europe would have been. This was Thomas Blanket. The noise he made was not that of the clashing sword, but of the clashing shuttle. His purpose was not to destroy what his country already possessed, but to give his country what it did not yet possess—*blankets*, a covering of comfort to go to bed with, to sleep under, that it might be refreshed in sound sleep, and rise in health and strength to its daily task of making mankind happier by being happier itself. Thomas Blanket was soon imitated by his neighbors, who like him, set up looms in their own houses, and made wollen cloth like that which he made. The cloth was named by his name, and to this day, and through all time in this country, will the name be known, though nothing else is known of this weaver than that he was the first to introduce the blanket manufacture in England. No cloth of any kind had been weaved in England before the reign of Edward III. We read that in 1331, John Kemp, from Flanders, introduced the weaving of cloth into England; that the king invited fullers, dyers, and so forth, to come from Flanders and settle here. This policy on the part of Edward was discreet; and, viewed in connection with some other of his actions, prove him to have had some perception of the real sources of national well-being. But he no sooner allowed the cloth manufacture to be implanted in England, than he almost rooted it up again by restrictive enactments and oppressive taxes to carry on his wars. The manufacture of the twisted double thread of woollen, called worsted, was introduced into England about this time, or soon after. The village of Worsted, about 15 miles from Norwich, was the first place where this thread was made, and it took the name of the village. There is no spinning nor woollen manufactures at Worsted now, but from the tombs in the grave-yard, and the benefactions left to the parish, which are all recorded in the church, we have proof that the manufacturers of Worsted were numerous, opulent, and lived there in successive generations, during several centuries. It may also be noticed here, that after inquiring into the history of the parish and the manufactures of Worsted, we visited Linsey, which gave the name to the fabric known as linsey wolsey; and Kersey and the Mere close to it Suffolk, where the work-shops are situated in which the cloth called Kerseymere was first made. The cloth so called now differs from the original, and there is but little trade of any kind in Kersey now. But, as at Worsted, the grave-yard and the church have many records of manufacturers long deceased. Their names, though now Anglicised and common in Suffolk, are all of Flemish origin.—*Somerville's Biographic History of Free Trade, &c.*

THE EFFECTS OF SHOT ON THE BATTLE-FIELD.

You can form no idea of the storm of balls and shells which crossed each other in their dread course.

Before and around the spot on which Field Marshal Radetski was standing, the heavy sixteen pound shots ploughed up the ground, tracing in one place a deep furrow, and cutting down a tree like stubble in another.

It is remarkable how each kind of missile has its own characteristic. There is the tremulous howl of the round large shot, the whistle of the musket-ball, the hiss of the shell, like that of the Catherine wheel firework, and then its detonation as it bursts. Of these last, many which fell amongst us missed fire, and many exploded harmless in the air; but where one fell and did its office, the effect was fearful. One struck an officer in the breast, exploded at that instant, struck down a man to the right and left, and cut off the upper part of the officer's body in such a fashion that his frightened horse gallopped off some distance with the feet of the corpse in the stirrups. Such are the spectacles which a field of battle occasionally presents. Not far off lay a Piedmontese artillerist who had been struck on the forehead by a spent six pound shot, which remained in the wound. A hussar had been killed at the same instant with his horse, by a shot which had passed through the neck of the latter; they had sunk together, the rider still on the saddle, and the sabre still in his hand. The sudden collapse of a man in full vigor is what is most fearful to behold. One sinks without a groan, another jumps high from the ground with a shriek, falls over, lies stiff, and is dead! I saw a Granzer from the Banat, with a ball in his forehead, falter a few paces, leaning on his musket like a drunken man: and then after a faint whisper about his home, expire. Over the town the cannon smoke had spread a colossal canopy, which floated motionless above the roofs like the crown of the Italian pine trees.—*Scenes from the Life of a Soldier in Active Service, in* 1849.

THE SIAMESE TWINS.

Dr. Warren, of Boston, lately communicated the following, among other interesting particulars in relation to the Siamese twins:

The connecting substance is very strong and has no great sensibility; it can be severely handled without causing pain. No pulsating vessel can be felt in it. The slightest motion of one is immediately followed by the other in the same direction, so that the same wish seems to influence both; this is quite involuntary, or a habit formed by necessity. They always face in one direction, standing nearly side by side, and cannot without inconvenience face in opposite directions. One is rather more intellectual than the other; the most intellectual being rather irritable, the other being extremely amiable.

The connection between these twins might afford some very interesting observations in physiology, therapeutics, and pathology. There is doubtless a connection by minute blood vessels, absorbents, and nervous filaments, which might transmit the action of medicines and the causes of disease. As far as known, any disposition of one extends to the other; they are inclined to sleep and eat at the same time and in the same quantity, and perform in the same manner other similar acts. It is supposed that when they are asleep, touching one awakens both, but when awake, an impulse given to one does not effect the other. The slighest movement of one is so soon perceived by the other, that a careless observer might think they acted simultaneously. No part seeming to have a perception common to both, except the middle of the connecting substance, and its neighborhood; for when an impression is made at this part it is felt by both, while beyond this space it is felt only by the one of the side to which it is applied.

From the limited vascular and nervous connection that can be discovered, Dr. Warren supposes that the influence of medicine, transmitted from one to the other, would be inconsiderable; and the same would apply to most diseases—for instance, a slight fever would not probably extend from one to the other; while diseases, communicable through the absorbents or capillaries, (as small pox) would be readily transmitted. The beatings of both hearts coincide exactly, under ordinary circumstances; if one exerts himself without the other, his pulse alone will be quickened, while the latter is unchanged. They breath also exactly together.

The harmony in corporeal functions would lead us to ask if there be a similar harmony in the intellectual functions; if they are identically the same persons. There is no reason to suppose that their intellectual operations are any more the same than they would be in any two persons, confined together, educated under similar circumstances, and with similar habits and tastes.

Then would come the question whether

they could be separated with safety. Perhaps such an operation, would not be necessarily fatal, but the peritoneum may be continuous from one to the other, and the opening of this great serous cavity might be attended with dangerous symptoms. Should one die before the other, it should be immediately performed, but no surgeon would be justified in attempting such an operation to free them from a mere inconvenience, which inconvenience, if we may believe the reports of their domestic affairs and flourishing condition of worldly goods, is, after all, of no very great consequence.

RECOGNITION OF VOICE BETWEEN THE EWE AND THE LAMB.

The acuteness of the sheep's ear surpasses all things in nature that I know of. A ewe will distinguish her own lamb's bleat among a thousand, all braying at the same time. Besides, the distinguishment of voice is perfectly reciprocal between the ewe and the lamb, who, amid the deafening sound, run to meet one another. There are few things that have ever amused me more than a sheepshearing, and then the sport continues the whole day. We put the flock into a fold; set out all the lambs to the hill, and then set out the ews to them as they are shorn. The moment the lamb hears its dam's voice, it rushes from the crowd to meet her, but, instead of finding the rough, well-clad, comfortable mamma which it left an hour, or a few hours ago, it meets a poor, naked, shriveling—a most deplorable looking creature. It wheels about, and uttering a loud, tremulous bleat of perfect dispair, flies from the frightful vision. The mother's voice arrests its flight—it returns—flies and returns again, generally ten or a dozen times before the reconcilement is fairly made up.—*Lay Sermons by the Ettrick Shepherd.*

REMARKABLE WORKS BY A CHINESE.

HIS ENCOMIUMS OF WASHINGTON.

To the man of science, the philanthropist, and the Christian, it will prove a stirring incident, that a work on geography has just been issued by a native Chinese, embracing the history and condition of other nations. A lieutenant governor is the author. In reference to his map of the world, the writer remarks:

"We know in respect to a northern frozen ocean, but in respect to a southern frozen ocean we had not heard. So that, when western men produced maps having a frozen ocean at the extreme south, we supposed they had made a mistake in not understanding the Chinese language, and had placed that in the South which should have been only in the North, but on enquiry of an American, one Abell, (the missionary,) he said the doctrine was very true, and should not be doubted."

It is a fact full of interest, that the chronology adopted in this work is that usually received by European writers. The more prominent facts of sacred history subsequent to the deluge are either alluded to, or stated at length much as they occur in the scriptures; the author, though saying that Buddhism is the religion of China, admits that Christianity is triumphing over all others. This book must do much to remove the insane prejudice of contempt by the Chinese of all other nations.

In the new and remarkable Chinese work, we find opinions and statements, by a native Chinese, which can hardly fail to interest our readers. The following is his language concerning the Father of our Country.

" As to Washington, he was an uncommon man. He conquered more rapidly than Shing and Kwang, and in courage he was superior to

Tsaou and Lew, (men of much renown in Chinese history.) Seizing the two-edged sword of three cubits long, he opened the country ten thousand le, (le is one-third of a mile.) He then refused to receive a title, or to secure one for his posterity, preferring to establish an elective administration. Patriotism to be commended under the whole Heaven! In administering the government, he fostered virtuous customs and avoided war, and made his country superior to all other nations. I have seen his portrait. His countenance exhibits great mental power. Ah! who would not call him an uncommon man?"

Of the United States, our Chinese friend thus remarks:

"The beauty of North and South America, extending several tens of thousands of le, are to be found in the United States. Its climate is temperate and its soil is fertile, like that of China. England was oppressive, therefore she lost what she could not again obtain. The kingdom increased and its resources multiplied. A distant colony in the wilderness was it not fortunate? The colonies united and formed a State covering ten thousand le. Without a king, without hereditary titles, and without following the customs of former ages, they established a government, subject to the will of the people."—*N. Y. Express.*

GENEALOGY OF ADAM.

The Rev. Dr. Smyth, who for some time past, has been advocating, with great learning and power, the doctrines of the strict unity of the human race, thus refers to Adam and his immediate descendants :—

"In the genealogy of Adam, but three of his children, Cain Abel and Seth, are mentioned by name, and a few only of his remoter descendants appear in the record. In the nine hundred and thirty years he walked upon the earth, his family must have been far more numerous than this, and his other children are expressly alluded to, in the words, 'and he begat sons and *daughters*.' 'The mother of all living,' was doubtless 'a fruitful vine,' and both she and Adam were in the vigor of their lives for a length of years which the postdiluvians knew nothing of. Cain was a married man when he slew Abel, and was then, not less, probably, than one hundred and twenty nine years of age. Seth, who was appointed by God to occupy the place of Abel, whom Cain slew, was born to Adam when he was one hundred and thirty years old. The natural increase of the race of man is extremely rapid when no hindrance is interposed. 'An island, first occupied by a few shipwrecked

English in 1589, and discovered by a Dutch vessel in 1667, is said to have been found peopled, after eighty years, by twelve thousand souls—all the descendants of four mothers.' When the Creator undertook to people a world, we may suppose that his providence arranged for this end, and no hindrance was allowed to interpose. It is believed that the death of Abel was the first which occurred in the family of man. It is not an unreasonable supposition, therefore, as figures will demonstrate, that the family of Adam embraced one hundred and ninety to two hundred thousand people at the banishment of Cain. How many of these adhered to the fortunes of Cain, from whom a large share descended, or whether any, we are not informed, nor are we told when he built his *city*. If he lived as long as his father Adam, and built it in the closing period of his life, his own descendants born in the land of *Nod*—that is in the land of his *flight*, which the name denotes—were far more numerous than the numbers above mentioned would indicate.

ELECTRICITY moves with a greater velocity than light, which traverses 200,000 miles of space in a second of time.

HOW TO CHOOSE EGGS.

New laid eggs should not be used until they have been laid about eight or ten hours, for that part which constitutes the white is not properly set before that time, and does not until then obtain its delicate flavor; that which is called milk in eggs, being, according to my opinion, very insipid; but that entirely depend supon fancy. Nothing being more offensive than eggs in a state of decomposition, it is very important that every person should know how to detect them, (especially in the winter.) If, by shaking them, they sound hollow, you may be certain they are not new laid, and are not fit to be boiled for breakfast; but, if broken, they may prove fit for any other culinary purpose, except for souffles, for which eggs must be very fresh. The safest way to try them is to hold them to the light, forming a focus with your hand; should the shell be covered with small dark spots, they are very doubtful, and should be broken separately in a cup, and each egg smelt previous to using? If, however, in looking at them you see no transparency in the shells you may be sure they are rotten and only fit to be thrown away. The most precise way is, to look at them by the light of a candle; if quite fresh, there are no spots upon the shells, and they have a brilliant light yellow tint. In the spring of the year it would scarcely be excusable to use any eggs that are not quite fresh.

REMNANTS OF POPULAR ERRORS IN ENGLAND.

THAT leases are made for 999 years, because a lease for 1000 years would create a freehold. That deeds executed on a Sunday are void. That in order to disinherit an heir-at-law it is necessary to give him a shilling by the will, for that otherwise he would be entitled to the whole property. That a funeral passing over any place makes it a public highway. That the body of a debtor may be taken in execution after his death. That a man marrying a woman who is in debt, if he take her from the hands of the priest, clothed only in a single undergarment, will not be liable for her engagements. That those who are born at sea belong to Stepney parish. That second cousins may not marry, though first cousins may. That a husband has the power of divorcing his wife by selling her in open market with a halter around her neck. That a woman's marrying a man under the gallows will save him from execution. That if a criminal has been hung, and revives, he cannot afterwards be executed. That the owners of asses are obliged to crop the ears of those animals, lest the length of them should frighten the horses. These and some other fallacies, equally absurd, are yet fully believed in by many.

FACTS IN BRIE .

Out of every thousand men, twenty of them die annually. The number of inhabitants of a city or country is renewed every thirty years. The number of old men who die in cold weather, is to the number of those who die in warm weather, as seven to four. The men able to bear arms form a fourth of the inhabitants of a country. The proportion between the deaths of women and that of men, is 100 to 108. The probable duration of female lives is sixty; but after that period the calculation is more favorable to them than men. One half of those who are born, die before they attain the age of seven. Among 3,125 who die, it appears by the registers that there is only one person of 100 years of age. More old men are found in elevated situations than in valleys and plains.

THE ICE OF LAKE CHAMPLAIN,—WHY IT DISAPPEARS ALL AT ONCE.

PERSONS who have lived at Plattsburgh, and other places on Lake Champlain, say that a singular fact is observed there on the breaking up of the ice in the spring, usually in the month of May. It is that the ice all disappears at once. One rising in the morning, for example, the lake is entirely clear from ice, although the previous evening it was seen completely bridged over. This fact was stated by Professor Olmstead, at the recent sitting of the Scientific Convention in New Haven, and the learned Professor ascribes it to the absorption of water by the ice, until its specific gravity exceeds that of the water, when it sinks to the botton. Although ice, on account of its crystaline structure, is lighter than water, yet the solid matter itself is lighter than water, so that when the insterstices are filled with this fluid the mass has a specific gravity exceeding that of the latter. Thus, sponge, when fully saturated with water, will sink in it; and if ice, in a porous state be placed in water, it will sink in it.

Why this is so peculiar to the ice of Lake Champlain, and why the same does not occur in other lakes which freeze over in the winter, is, that on account of the severe climate of the north part of Lake Champlain, the ice remains on the lake until the sun has advanced very far northward, and the surrounding country has become quite warm. By alternate freezing and thawing, the ice becomes granulated, and very porous, and consequently very absorbent of water. When this process has reached a certain point—that is the moment when the specific gravity of the ice, thus soaked with water, exceeds that of the medium itself—the whole sinks and disappears at once. A most singular phenomenon, truly.

THE ELOQUENCE OF THE HANDS.

THE hands are by the very instincts of humanity, raised in prayer, clasped in affection; wrung in despair; pressed on the forehead when the soul is "perplexed in the extreme;" drawn inward, to invite; thrustforth, objectively, to repel; the fingers point to indicate; and are snapped in disdain; the palm is laid upon the heart, in invocation of subdued feeling; and on the brow of the compassioned in benediction. The expressive capacity of the hands was never more strikingly displayed than in the orisons of the deaf and dumb, Their teacher stood with closed eyes, and addressing the Deity by those signs made with the fingers, which constitute a language for the speechless. Around him were grouped more than a hundred mutes, following with reverend glances every motion. It was a visible, but not an audible worship.

EXCELLENT ADVICE

Set a value on the smallest morsel of knowledge. These fragments are the dust of diamonds.

It is true as poor Richard says, there is much to be done, and perhaps you are weak handed; but stick to it steadily, and you will see great effect, for a constant dropping wears a stone.

A man may learn that in two minutes which may be valuable to him all his life.

Learn all you can, and you will live to see its value.

Never let slip an opportunity of gaining a new idea.

Remember that the beginning of the sublime sciences are often so simple as to seem wortheless.

Redeem time for study; the busiest man can spare some moments.

CURIOUS CALCULATION IN DIETETICS.

SOME *calculating* genius writes to the New York Herald as follows:

"I have been married thirty-two years, during which time I have received from the hands of my wife, three cups of coffee each day, two in the morning and one at night. making 35,040 cups of half a pint each, or nearly seventy barrels of thirty gallons each, weighing 17,520 lbs., or nearly nine tons weight. Yet for that period I have scarcely varied myself in weight from 160 lbs. It will therefore be seen that I have drank in coffee alone, 218 times my own weight. I am not much of a meat eater, yet I presume I have consumed about eight ounces a day, which makes 5,809 lbs., or about ten oxen. Of flour I have consumed in the thirty two years about fifty barrels. For twenty years of this time, up to 1831, I have drank two wine-glasses of brandy each day, making 900 quarts. The port wine, madeira, whiskey, punch, etc., I am not able to count, but they are not large. In champagne I have been extremely moderate, as I find from my bills that I have paid for fifty-three baskets in the last thirteen years, which is about one bottle a week, and this not all consumed by me.

When we take into the account all the vegetables in addition, such as potatoes, peas asparagus, strawberries, cherries, apples, pears, peaches, raisins, etc., the amount consumed by an individual is most enormous. Now, my body has been renewed more than four-times in thirty-two years; and taking it for granted, that the water, of which I have drank much, acts merely as a dilutent, yet, all taken together I conclude that I have consumed in thirty-two years, about the weight of 1,100 men, of 160 lbs each! This is small when compared to the gormandizers."

WEATHER WISDOM.

A CAREFUL study of the thermometer has shown that a descent of the temperature of London from forty-five to thirty-two degrees, generally kills about 300 persons. They may not all die in the very week when the loss of warmth takes place, but the number of deaths is found to increase to that extent over the previous average within a short period after the change. The fall of temperature, in truth kills them as certainly as a well-aimed cannon-shot. Our changing climate or deficient food and shelter has prepared them for the final stroke, but they actually die at last of the weather. * * * Instead of a warm summer being followed by a cold winter, the tendency of the law of the weather is to group warm seasons together and cold seasons together. Mr. Glasier has made out that the character of the weather seems to follow certain curves, so to speak, each extending over periods of fifteen years. During the first half of each of these periods, the seasons become warmer and warmer, till they reach their warmest point, and then they sink again, becoming colder and colder, till they reach the lowest point, whence they rise again. His tables range over the last seventy-nine years —from 1771 to 1849. Periods shown to be the coldest were years memorable for the high-priced food, increased mortality, popular discontent, and political changes—*Dickens' Household Words.*

TO DESTROY THE CATERPILLAR.

In answer to many enquires for the best mode of destroying caterpillars on fruit trees, which have caused such havoc of our hopes the present year, I would say through the pages of the

Cultivator, that three drops of lamp oil poured into their nest, will effectually destroy all that may be in the nest at the time when it is applied— *Corr. Boston Cultivator.*

FLIES.

NOT a year passes but we hear of cases of accidental poisoning from the use of various fly poisons, that are improperly employed to destroy those insects. We have known of several cases within a few years, in this city, where the death of children have been thus produced. We think, therefore, it should be generally known that it is wholly unnecessary to resort to these deadly arsenical preparations for the purpose of killing flies, and at the season in which these little insects are most annoying is approaching, we will here state, for the benefit of the public, upon good authority, if a plateful of *strong green tea,* well sweetened, be placed in an outer apartment accessible to flies; they will taste of it, and be killed thereby as surely as by the most approved "fly poison." This fact may not be so agreeable to those who are accustomed to sip two or three cups of this delightful beverage every evening, but it is nevertheless a fact, and any one who has any doubt upon the subject, has but to try the experiment, and in doing so they need have no fears of poisoning, materially, their children, even though they should accidentally drink the draught designed for the flies.—*Providence Journal.*

USES OF THE TOMATO.

To Preserve Tomatoes. — Place them in clean bottles, and protect them carefully from the air by corking. Put the bottles into a large kettle filled with cold water, and suspend the kettle over the fire till the temperature of the water is elevated to the boiling point. The bottles may then be removed, and the mouths dipped into melted sealing wax, and covered with bladder. Tomatoes preserved in this manner, will keep perfectly good for years.

Tomato Catsup. — Select sound, ripe tomatoes, mash fine, and to every peck of fruit add a pint of salt. Allow them to stand forty-eight hours, and then strain and boil the liquor, to which has been previously added two ounces of spice, two ounces of black pepper,one ounce ginger, one ounce cloves,and half an ounce of mace, till the scum rises. Strain the liquid through a fine cloth, bottle, cork, and set away for use. Some prefer green tomatoes to ripe for catsup.

Tomato Sauce.—Select the ripest and most perfect fruit, peel and stew as apples for sauce. Season with a small quantity of salt and pepper; if, however, a small lump of butter be added, salt will be unnecessary. This sauce possesses an agreeable flavor, and is not too sour to be used with meat, but when used in this manner may be improved for some palates, by the addition of a little sugar or molasses.

To Dry Tomatoes.—Select perfectly ripe fruit; scald and remove the rinds. Boil with a small quantity of salt and sugar, but without water. Spread in shallow vessels and dry in the sun. When dry enough, they may be packed in bags and suspended in a dry room. When wanted for use, soak till soft in tepid water.

Tomato Omelet—Take one quart of peeled, ripe tomatoes, chop finely and simmer for twenty minutes over a moderately quick fire. Add a few chopped onions, with a small quantity of crumbed bread and a lump of butter. When nearly done, stir in four eggs, previously well beaten.

To Pickle Tomatoes. — As you take them from the vines, plunge them into cold vinegar, and when the quantity desired has been gathered, remove them, tie some spices in a bag, scald them thoroughly in good vinegar, and pour it over the tomatoes, boiling hot.

Tomato Jelly.—Peel and press the tomatoes through a cloth of fine texture, and to every pound of tomatoes add one pound of sugar. Boil to jelly, cork closely in clean bottles, and keep in a cool place.

INSTINCT OF THE ANT.

A gentleman at Cambridge one day remarked an ant dragging along what with repsect to its strength, might have been denominated a piece of timber. Others were severally employed, each in its own way. Presently this little creature came to an ascent, where the weight of the wood seemed to overpower him. He did not remain long perplexed with it, for three or four others, observing his dilemma, came behind and pushed it up. As soon, however, as he had got it on level ground, they left it to his care, and went to their own work. The piece he was drawing happened to be considerably thicker at one end than the other. This soon threw the poor fellow into fresh difficulty; he unluckily dragged it between two pieces of wood. After several fruitless efforts, finding it would not go through, he adopted the only mode that a reasoning being in similar circumstances could have taken; he came behind it, pulled it back again, and turned it on its edge, when running again to the other end, it passed through without difficulty.

A BOAT, A CLOAK, AN UMBRELLA, AND A WALKING-STICK.

At a recent meeting of the Humane Society, Mr. Oliveira called the attention of the Society to a new boat, invented by Lieutenant Halkett, R. N. It was so constructed that it served the purpose, of a cloak when not inflated, or it might be carried in a small parcel weighing only seven pounds and a half. It could be inflated in three minutes and a half, and would support six or eight persons. In some recent experiments tried, it had been impossible to sink or overturn it, although filled with water and holding six persons. A paddle capable of being used as a walking-stick could be used in propelling it; or a small portable sail, which would also serve the purpose of an umbrella.

LIFE AND CHARACTER OF JENNY LIND.

BY REV. DR. BAIRD.

THE subjoined notice of the life and character of this interesting woman, is slightly abridged from the New York Observer. It is from the pen of the Rev. Dr. Baird. It will be read with interest as coming from a reliable source. It will be seen that it scatters to the winds some of the fables which the newspapers have given respecting her parentage, and a sailor brother. When Miss Lind visited Boston, in 1850, she was about thirty years of age.

The subject of this brief sketch, was born in the city of Stockholm, in the parish of St. Clara, in which church she was baptised. Her parents, though not in affluent circumstances, are (for they still live to rejoice in the wonderful success of their beloved daughter) much respected by all who know them. Her father is a member of the legal profession. Her mother for many years kept a boarding school for girls. By a former marriage she had a daughter, who died before reaching adult age. Jenny Lind is her only child by second marriage. Both parents are Protestants, and are members of one of the churches in Stockholm. In the same church the subject of this notice made her first communion, according to the practice of the Luthern church, the National church of Sweden, and of all other Scandinavian countries. Of the same church she has continued a member since her fifteenth or sixteenth year.

From childhood she displayed a remarkable talent for music, and was encouraged by her friends to cultivate her extraordinary powers. In her ninth or tenth year, she attracted the attention of an old teacher of music, named Croelius, who proved to be a true friend. He secured for her the friendship of Count Pucke, the administrator of the Royal theatre in Stockholm, who admitted her to the musical school attached to that theatre, where she made rapid progress. At the early age of fifteen, (about twelve years ago,)she commenced singing in public, and became a great favorite with the music loving people of that city. But it was not long before her voice failed, and she had to give up the stage. Years of disappointment passed away, during which time she aided her mother in her school. At length her voice began to return, and her hopes revived.

The good old Croelius now advocated her going to Paris, where she spent portions of 1841—42, enjoying the tuition of Garcia, the greatest musical teacher in that city. Her efforts were unceasing to master thoroughly the principles of the science, and to improve and perfect her voice.

Those who suppose that she owes all to nature, know but little of the immense labor which she bestowed for many long years upon the acquisition of the principles of music and the perfecting of her voice—which recovered in time all its early sweetness and beauty, and acquired its present astonishing flexibility and strength.

In the winter of 1843—44, she commenced in Berlin, her wonderful career as a public singer, and soon acquired great celebrity in Germany. In the summer of 1844, she returned to Stockholm, where she was received with unbounded demonstrations of affection and of honor. And without going into a minute account of her musical tours on the continent, it is sufficient to say that after having repeatedly visited Vienna, Berlin, Copenhagen, Stockholm, and other cities in the Teutonic portions of the continent, she appeared in England in the spring, of '47. During that summer and two succeeding ones she sang in London and most of the chief places in Great Britain and Ireland. Everywhere her triumph was complete. Each succeeding year her popularity became, if possible, greater.

At first and for several years, Miss Lind sang at the theatres,—in the great operas of Meyerbeer, Donizetti, Verdi, Monzart, Mendelssohn, Rossini, etc.,—and was scarcely more distinguished for her singing than her acting. For the last two years she has preferred to sing in concerts, in which she can get away from many things in theatrical performances—for which she has long had an increasing repugnance—and lay out her strength upon the choice *morceaux* of the best operas, such as the Somnambula, Norman, Der Freyschutz, Camp of Silesia, La Figlia del Reggimento, Ernani, Don Giovanni, etc. This course enables her to introduce the beautiful national songs of Sweden, in which her inimitable powers appear to as great advantage as in the most scientific pieces. By pursuing this course, she is enabled to control with more ease her own movements, and command with more certainty the company which she would prefer. It is probable that this course she will exclusively pursue, as long as she continues to sing in public. These concerts, regulated as she will have them regulated, together with some of the best Oratorios, evidently furnish what her purity of heart and of life prefers and demands; nor can she desire greater success than she has found in this course.

We do not feel called upon to express our opinion respecting Miss Lind's singing—a subject on which we possess no claims to be heard,—but we think that all who hear her will agree that her unaffected and natural manner, her clear comprehension of the sense of what she sings, her heart-felt appreciation of that sense, the absorption of her soul in the subject—all combine with the wonderful tones of her voice, to give her the irresistible influence which she possesses over her audiences. To this must be added the charm of her excellent character—her good sense, her singular freedom from pride and vanity, her sweet affability of manner, the great benevolence of her heart, her unaffected respect for religion, her pious belief in the truth and sufficiency of Christianity, and her strong desire that her influence should be in favor of all that is good.

Probably the world has never seen a person in similar circumstances who has possessed a disposition so truly benevolent.

Having made a liberal, though not extravagant provision for her own future support, as well as for the support of her honored parents, who reside in Sweden, (not in *Switzerland*, as some of the papers have lately stated), in the neighborhood of Stockholm, she has within the last few years, given what may be called immense sums to charitable objects. It is said, on what we believe to be good authority, that during her visits to England nearly sixty thousand pounds sterling, or not much short of three hundred thousand dollars, were secured for objects of charity in that country by her efforts. And although she desires to appropriate the avails of her visit to our country, to the promotion of the education of poor children in her native land, yet she gave the princely sum of ten thousand dollars—the first fruits of her exertions among us—to various objects of benevolence in the city of New York. And in Boston her charities were over $7,000.

This is indeed noble! At the same time, we fear that this generous act will occasion her no little embarrassment; for it has prompted, we are sorry to say, a host of people to apply to her for help for almost every imaginable purpose; we are sure that many are doing this for want of proper consideration. We have the ability within ourselves to do all that is needed in behalf of every good enterprise, if we would do what we ought. And it is hardly worthy of us to ask a noble-hearted woman who has come here to seek, in an honorable way, in which she gives a full equivalent, in the purest enjoyment, for every dollar which she earns----the means to bless her now poor, Protestant Sweden----to do what we should do ourselves. We say these things with real grief; for we have been mortified to learn how she is annoyed by innumerable letters and personal applications, so numerous indeed that she can by no possibility pay attention to them.

LITTLE CHILDREN.

The following beautiful sentiment is from the pen of Miss Bremer, in her remarks on physical education.

Freedom, freedom----the west wind of joy, whose pure breath alone can expand every flower of life----give freedom to those innocent little ones, who to immortality must wander through a stormy country. Let the air of liberty, not the simoon of restraint, accompany their steps, and the world will not then see so many exhausted wanderers sink down powerless, and fall under their burden by the way side.

LATIN AND LABOR.

John Adams, the second President of the United States, used to relate the following anecdote:—

"When I was a boy I had to study the Latin grammar, but it was dull and I hated it. My father was anxious to send me to college, and therefore I studied the grammar till I could bear it no longer; and going to my father, I told him I did not like study, and asked for some other employment. It was opposing his wishes, and he was quick in his answer. "Well, John, if Latin grammar does not suit you, you may try ditching; perhaps that will; my meadow yonder needs a ditch, and you may put by Latin and try that."

"This seemed a delightful change, and to the meadow I went. But I soon found ditching harder than Latin, and the first forenoon was the longest I ever experienced. That day I ate the bread of labor, and glad was I when night came on. That night I made some comparison between Latin grammar and ditching, but said not a word about it. I dug next forenoon, and wanted to return to Latin at dinner; but it was humiliating, and I could not do it. At night, toil conquered pride; and though it was one of the severest trials I ever had in my life, I told my father that, if he chose, I would go back to Latin grammar. He was glad of it, and if I have since gained any distinction, it has been owing to the two days' labor in that abominable ditch."

Boys may learn several important lessons from this story. It shows how little they oftentimes appreciate their privileges. Those who are kept at study, frequently think it a hardship needlessly imposed on them. But they must do something; and if set to ditching, would they like that any better? The opportunity of pursuing a liberal course of study, is what few enjoy; and they are ungrateful who drag themselves to it as to an intolerable task. You may also learn from this anecdote, how much better your parents are qualified to judge of these things than yourselves. If John Adams and continued his ditching instead of his Latin, his name would not probably have been known to us. But in following the path marked out by his judicious parents, he rose to the highest honors which the country affords.—*Anecdote for Boys.*

PLATO was at one time a slave, and was redeemed by his pupils for less than four hundred dollars.

THE BAY OF SAN FRANCISCO.

The famous Bay of San Francisco, about which so much has been said and sung, is formed by a long peninsular tract of land which separates its waters from the ocean, and turns in a direction nearly south-east and north-west. This peninsula widens as you approach Monterey, gradually encroaching upon the waters of the bay, forming a curve bounding the eastern and southern shores of this magnificent inland sea. Near its northern terminus is the entrance to the bay, near which is the harbor and town of San Francisco. But although the Bay of San Francisco is one of the most extensive and completely land-locked bays in the world, (having no communication with the ocean, except through its one narrow outlet of a mile and a half in width,) it is only one of three bays all connected with each other, and forming together an extent of nearly two hundred miles, from north to south, of inland navigation. After entering the southernmost of these three bays, (San Francisco,) a broad channel, equally as wide as that at the entrance, and of sufficient depth of water to float the largest ships, conducts into the bay of San Pablo, through which there is a beating channel three miles broad, and of from seven to fifteen fathoms of water in depth. From the Bay of San Pablo, which tends to a northeasterly direction, you enter the Straits of Carquines; which are from one mile and a half to two miles broad, and about six miles long, leading to the northern of the three bays forming the chain, which is called the Suisun Bay. In the Straits of Carquines, there is sufficient depth of water for the largest class of ships; but after entering Suisun Bay, the navigation (for any except small craft of light draught) is prevented by the want of sufficient depth of water. This is occasioned by its being the reservoir or receptacle of enormous annual deposits of alluvium, brought down by the rivers Sacramento, San Joaquin, and their numerous tributaries, from the mountains and plains through which they flow for hundreds of miles. The head of ship navigation, therefore, is in the Straits of Carquines, about thirty-five miles in a northerly direction from San Francisco. At this point a town is springing up rapidly, which seems destined, at no distant period, to rival San Francisco in importance, over which it possesses great natural advantages, as you might see by looking at the map. In the first place, it is at the head of ship navigation, and is surrounded on all sides by the most fertile agricultural districts in Northern California. The Sonoma, Nappa, Sacramento and San Joaquin valleys, are all tributary to this point which is the centre of so many radii; while San Francisco has no back country, being situated at the extreme end of a long and narrow neck of land which separates the Bay of San Francisco from the Ocean, and which is one of the most bleak and barren tracts of land in all Northern California.

EDUCATE YOURSELF.

KNOWLEDGE is its own exceeding great reward. It is not the gift of a college, particularly. It is what the mind produces whenever it acts. Great schools are chiefly appliances for the lazy, to furnish substitutes for knowledge by which to make their way in the world. A youth who has a noble thirst for science, is not so much benefitted by a "liberal education" as he is apt to imagine that he will be, before trying it. If your parents are rich, and have nothing better to do with their money, let them board you at Cambridge or Yale for four years. But if they are poor, laboring people, stay with them and labor. But don't the less strive for a liberal education. Be liberal in supplying yourself with books and time. Journey on foot and study nature and men. Ask questions of everybody and everything.

Thus doing, you will probably acquire more satisfactory and useful knowledge, and what is more, sounder character and firmer health—you will be more of a man than if you distress your parents to have knowledge put into your mouth with a pap-spoon. It is thus that the greatest and best men are made in every country.

THE HIPPOPOTAMUS AT THE ZOOLOGICAL GARDEN.

THE arrival of the hippopotamus in England is quite an event in natural history, every attempt, for the last twenty years, to import a living specimen of this great amphibious animal having failed. The quadruped now being exhibited in the Zoological Gardens, Regent's-park is a present from the Viceroy of Egypt to the Zoological Society of London. It was captured in the course of last autumn, in the Island of Obaysch, distant some 1,800 miles above Cairo; and, despite the difficulties encountered in conveying it to this country, every arrangement resulted successfully, and conduced to the perfecting of an enterprise at once the most important and interesting in which the society have yet embarked. The triumphant issue of the enterprise is best attested by the fact, that an offer of $25,000, from an American agent in Alexandria, for an animal of this species, to be delivered to him in that city, failed to induce any speculator to encounter the risk and labor of an expedition to the White Nile. The animal is now in its infancy, not having yet reached the end of its first year; but its huge proportions indicate the enormous bulk and power at which it will arrive when at its full growth. A house has been built for it next to the giraffe-house, in the yard of which it is allowed occasionally to take exercise. In the room is a large tank of water, into which the animal descends by a flight of stone steps—its waking hours being spent about equally in and out of the water. An Arab keeper sleeps with it; and the creature is restless unless he can place his chin on his guardian's feet. An arrangement is made in the den for this purpose—so that the keeper is caged off from the animal all but his legs. This appears very necessary, as, in the intensity of his affection, the animal might throw himself bodily into the arms of his sleeping keeper, and press his life out in an instant.—*London Times.*

A SHIP should not be made to depend on one anchor, nor life on one hope.

A CURIOUS FACT.

THE crocodile in feeding on the banks of the Nile, or basking in the sun, is very much annoyed by what Heroditus calls *bdella.* The inside of his mouth is lined with them. All birds, one alone excepted, fly from the crocodile ; but that bird, the *trochilos,* on the contrary, flies to him with eargerness, and renders him a great service ; for every time that the crocodile lands to rest himself, and stretches out, with open jaws, the *trochilos* enters the mouth, which it clears of the *bdella* it finds there. The crocodile is grateful and never does any injury to this little bird, from which it receives so good an office. This was until recently, discredited as a fiction of Aristotle and Pliny, but recent inquiries establish the fact. The term *bdella* does not signify a leach, as was supposed, but is a kind of gnat, myriads of which insects swarm on the banks of the Nile. These insects strike their trunks into the orifices of the glands which abound in the mouth of the crocodile, and the tongue of the crocodile being immovable, he cannot get rid of them. It is then that the *trochilos,* a kind of little ring-plover, which pursues the gnats everywhere, hastens to his relief and dislodges his troublesome enemies, and that without any danger to itself; the crocodile always taking care, when he is about to shut his mouth, to make certain movements which warn the bird to fly away.

CURIOUS ANTIPATHIES.

HENRY III. of France could not stay in the room where there was a cat; though so immoderately, fond of dogs, that the Duke of Sully says, on his first audience he had a basket full of young puppies suspended by a black string from his neck, and was playing with them all the time of the conference. Ulidaslas king of Poland, was distracted at the sight of apples. Erasmus could not even smell fish without being greatly agitated. Scaliger trembled at the sight of water-cresses. Tycho Brahe felt his limbs sink under him when he met either a hare or a fox. Bacon swooned at an eclipse of the moon; and Boyle fell into convulsions on hearing the sound of water drawn from a cock. James I. could not endure the sight of a drawn sword: and Sir Kenelm Dighy tells us, that " the king's hand shook so much in knighting him, that he would have run the point of the sword into his eye, if the Duke of Buckingham had not directed it to his shoulder."

PATRICK HENRY.

It appears that soon after Henry's noted case of "Tobacco and the preserves," as it was sometimes called, he heard of a case of oppresssion for conscience sake. The English Church having been established by law in Virginia, became, as all such establishments are wont to do, exceedingly intolerant towards other sects. In prosecution of this system of conversion, three Baptist clergymen had been indicted at Fredericksburgh, for preaching the Gospel of the Son of God, contrary to the statute. Henry, hearing of this, rode some fifty miles to volunteer his services in defence of the oppressed. He entered the court, being unknown to all present save the bench and the bar, while the indictment was being read by the clerk. He sat within the bar, until the reading was finished, and the king's attorney had concluded some remarks in defence of the prosecution, when he rose, reached out his hand for the paper, and without more ceremony, proceeded with the following speech:

"May it please your worship, I think I heard read by the prosecutor, as I entered this house, the paper I now hold in my hand. If I have rightly understood, the king's attorney of the coloney has framed an indictment for the purpose of arrainging and punishing by imprisonment three inoffensive persons before the bar of this court, for a crime of great magnitude—as disturbers of the peace. May it please the court, what did I hear read? Did I hear it distinctly, or was it a mistake of my own? Did I hear an expression as if a crime, that these men, whom your worships are about to try for misdemeanor, are charged with—what?" and continuing in a low, solemn, heavy tone, "preaching the Gospel of the Son of God?" Pausing amidst the most profound silence and breathless astonishment, he slowly waved the paper three times around his head when, lifting his hands and eyes to heaven, with peculiar and impressive energy, he exclaimed, "*Great God!*" The exclamation—the burst of feeling from the audience---were all overpowering. Mr. Henry resumed:

"May it please your worship; in a day like this---when truth is about to burst her fetters---when mankind are about to be aroused to claim their natural and inalienable rights ---when the yoke of oppression, that has reached the wilderness of America, and the unnatural alliance of ecclesiastical and civil power about to be dissevered---at such a period, when liberty---liberty of conscience---is about to wake from her slumberings, and inquire into the reason of such charges as I find exhibited here to-day in this indictment!" Another fearful pause, while the speaker alternately cast his sharp, piercing eyes on the court and the prisoners, and resumed: "If I am not deceived, according to the contents of the paper I now hold in my hand, these men are accused of preaching the Gospel of the son of God! Great God!" Another long pause, while he again waved the indictment around his head ---while a deep impression was made on the auditory. Resuming his speech: "May it please your worships; there are periods in the history of man, when corruption and depravity have so long debased the human character that man sinks under the weight of the oppressor's hand---becomes his servile, his abject slave; he licks the hand that smites him; he bows in passive obedience to the mandates of the despot; and, in this state of servility, he receives his fetters of perpetual bondage. But, may it please your worship, such a day has passed away! From that period, when our fathers left the land of their nativity for settlement in these American wilds—for liberty---for civil and religious liberty—for liberty of conscience to worship their Creator according to their own conceptions of Heaven's revealed will---from the moment they placed their feet upon the American continent, and, in the deeply imbeded forest, sought an asylum from persecution and tyranny, --- from that moment, despotism was crushed---the fetters of darkness were broken, and Heaven decreed that man should be free---free to worship God according to the Bible. Were it not for this, in vain were all the suffering and blood shed to subjugate this New World, if we, their offspring, must still be oppressed and persecuted. But may it please your worships, permit me to inquire once more, for what are these men about to be tried. This paper says for preaching the Gospel of the Saviour to Adam's fallen race." And, in tones of thunder, he exclaimed: "*What law have they violated?*" While the third time, in a slow, dignified manner, he lifted his eyes to Heaven, and waved the indictment around his head. The court and audience were now wrought up to the most intense pitch of excitement. The face of the prosecuting attorney was palid and ghastly, and he appeared unconscious that his whole frame was agitated with alarm; while the judge, in a tremulous voice, put an end to the scene, now becoming excessively painful, by the authorative declaration, "Sheriff, discharge those men."

CATO said, "The best way to keep good acts in memory, is to refresh them with new."

THE SHIPWRECKED SAILORS AND THE CHRISTIAN ESQUIMAUX.

THE ship Harmony has made eighty uninterrupted voyages in succession across the ocean, bearing supplies to the Moravian Missions on the coast of Labrador.

In her last voyage this most favored vessel was the means, in God's hands, of rescuing and restoring to their families and homes a number of shipwrecked mariners, the survivors of one of the vessels lost in the Polar Sea. It was the *Graham*, commanded by Captain Froud, which was just entering Hudson's Bay, when she was struck with such violence by a huge mass of ice, that she filled with water, and went down in a quarter of an hour. The crew, fifteen in number, were enabled to save themselves by the long and jolly boat, with some biscuits and a box of clothing. Their only hope of safety seemed to depend on the success of an attempt to reach either the opposite shore of Hudson's Bay, or a settlement on the eastern coast of Labrador. In this attempt, one of the boats containing four men was lost; the rest of the crew in the other still pushed on their way a distance of 800 miles, amid extreme privation, and with the loss of two men, until they approached one of the outermost islands in the Bay of

Okkak called Igloksoaktalik, where two Esquimaux approached them very cautiously in their kayaks. The sight of these strangers at first inspired alarm, but on the captain assuring his companions, that their countenances were not like those of the northern savages, they ventured to approach. As soon as the Christian Esquimaux perceived the distressed condition of the people in the boat, they immediately gave them a large cod which they had caught, and invited them on shore, where four Esquimaux families had their temporary dwellings. The poor sufferers, who had not the remotest idea of the existence of a mission on this coast, and were still haunted with the apprehension of being plundered or even murdered by the natives, did not, however, venture immediately to accept this invitation ; but when at length the few that were able to walk proceeded on shore,---when they heard the melodious voices of the women chanting a hymn of praise to God for their deliverance,—when they afterwards saw some of them occupied in washing their clothes, and others in preparing a meal of fish and seal's flesh for their refreshment,---their hardy spirits were overcome, and they burst into tears. They experienced the hospitality of the missionaries for some weeks, after which they were brought by the *Harmony* to England, where they arrived in October 1849.

ORIGIN OF THANKSGIVING DAY.

When New England was first planted, the settlers met with many difficulties and hardships, as is necessarily the case when a civilized people attempt to establish themselves in a wilderness country. Being piously disposed, they sought relief from Heaven, by laying their wants and distresses before the Lord in frequent set days of fasting and prayer.—Constant meditation, and discourse on the subject of their difficulties, kept their minds gloomy and discontented, and, like the children of Israel, there were many disposed to return to the land which persecution had determined them to abandon.

At length, when it was proposed in the assembly to proclaim another fast, a farmer, of plain sense, rose, and remarked, that the inconveniences they suffered, and concerning which they had so often wearied Heaven with their complaints, were not so great as might have been expected, and were diminishing every day as the colony strengthened; that the earth began to reward their labors, and to furnish liberally for their subsistance; that the seas and rivers were full of fish, the air sweet, the climate wholesome; above all they were in the full enjoyment of liberty, civil and religious. He therefore thought that reflecting and conversing on these subjects would be more comfortable, as tending to make them more contented with their situation; and that it would be more becoming the gratitude they owed to the Divine Being, if, instead of a fast, they should proclaim a thanksgiving. His advice was taken; and from that day to this, they have in every year observed circumstances of public happiness sufficient to furnish employment for a thanksgiving day.

THE FLAG OF THE UNITED STATES.

THE original flag of the United States was composed of thirteen stars and thirteen stripes, and was adopted by a resolution of the Continental Congress of 15th of June, 1781. On the 13th of January, 1794, after new States had been admitted into the Union, the Nationtional Legislature passed an act, providing that the stars and stripes should on a day fixed be increased to fifteen each, to comport with the then number of States. On the 16th of December, 1817, Mr. Wendover, of the house of Representatives introduced a resolution to inquire into the expediency of altering the flag of the United States. He gave it as his opinion that the flag would be essentially injured by an alteration on the same principle as that which had been adopted, viz:—of increasing the stripes and stars, and stated the incongruity of the flags then in general use not agreeing with the law, and greatly varying with each other.

The resolution was referred to a select committee, which made a report on the 6th of January 1818, accompanied by a bill to alter the flag so as to reduce the stripes to the original number of thirteen, to represent the number of States then contending for and happily achieving their independence, and to insert the stars to correspond with the Union, and thereafter add one star to the flag whenever a new State is admitted into the Union, which was adopted.

On the 26th of September following, being the fourth anniversary of the battle of the brig Gen. Armstrong, at Fayal, by order of the Secretary of the Navy, the new flag was displayed for the first time at the navy yard, Charleston, and on board the national ships of war in Boston harbor, and was saluted by each vessel. Similar honor was paid on its being hoisted at all the stations.

FACTS ABOUT DIGESTION.

The gastric juice is essential to digestion. It is caused to flow into the stomach as soon as any substance is introduced into the stomach, whether it is a piece of leather or a beefsteak. This juice contains an acid, and the more indigestible any article of food is, the greater amount of sourness does the gastric juice contain; hence, when persons eat something that does not agree with them, that is not easily digested, they say it soured on the stomach, or complaim of heart-burn. The use to make of this, is whatever article of food is followed by sour stomach or heart-burn, that article is hard of digestion and ought to be avoided altogether, at least it should be taken in a diminished quantity. But do not forget that different stomachs bear different things: and what disagrees with you to-day, may agree very well next week or next mouth, and the stomach must be humored, however fickle it may seem.

Sometimes, however, shall I not say always, people eat so much that there is not gastric juice or acid enough to digest the food, then it ferments, produce belching, colicky pains, sick stomachs, and the like—therefore common vinegar, which has more of the properties of the gastic juice than any other substance, is often used to a very great advantage, especially by persons who have a very weak stomach, to aid the stomach in digesting articles which are known to be difficult of digestion. Hence vinegar is plentifully used with cabbage, raw or boiled, with cucumbers, &c.—Hence, too, it is that catsup of various kinds are eaten, sour crout almost digested by the vinegar it contains before it is eaten. Hence, too, it is, that some cases of loose bowels are cured by eating plentifully of good tart fruits uncooked, as they supply sourness to digest the undigested articles of food which gives rise to dirrahæas that are not of abilious character. Hence, too, a good ripe apple or two a little sour, after a hearty breakfast or dinner, is advantageous rather than otherwise, provided that not much more than the juice is swallowed. The better plan by far, however, is not to eat so much as to require an apple to save us from the effects of our imprudence.

THE aim of education should be to teach us rather how to think; rather to improve our minds, so as to enable us to think for ourselves, than to load the memory with the thoughts of other men.

THE BALANCED CENTRIFUGAL PUMP.

In the course of the past week several trials were made in the navy yard with J. S. Gwynne's recently patented "Balanced Centrifugal Pump," in presence of Commodore Downes and other officers of the navy, and several scientific gentlemen in civil life. A model of this pump has been on exhibition at the Mechanics' Fair and was examined with much attention by the judges on mechanics. The feature which first arrests the attention of the observer, is the extraordinary simplicity of the construction. It has neither valves nor joints, and derives all its projective power from the revolutions of a wheel into which the water rushes the instant vacuum is created in a circuler receiver around the axle. Those who have seen, or heard of the bursting of a grindstone, when turned with too great velocity, will readily understand the degree of force with which the water is thrown from the centre to the open periphery of the wheel. The wheel is formed of two metal plates, separated by cross bars, the interstices leaving space for all the water which is admitted at the centre. The shaft or axle of this wheel has a drum at its outer extremity, which receives the belt, if steam or other artificial power is used for turning it. It is imposible for any thing to be more simple, or less exposed for derangement, while in operation. If hand power be used, then a little movable geering is attached to the shaft. On Saturday afternoon we witnessed some trials with steam power, and although the pump used is only one of the smallest size, it discharged a column of water eight inches in diameter, that being the size of the external conduit pipe. The surface of the water in the well from which it was raised was 22 feet below the pump wheel. The quantity discharged in one minute was 1500 gallons. It was also tried as a fire engine, with four butts playing at once. The hose-pipes from three were turned into the cellar, and the range of the fourth, which was turned into the yard, was found to be seventy-five feet. The nozzle was one inch and three-eighths, and the water was in as solid a form as it could possibly be in hose. In both trials only the limited amount of seven horse power was applied. There seems to be no limit to the power of the machine other than the maximum strength of the materials of which the parts are made, and the strength beyond which is impossible to go in the construction of steam engines. Ten thousand five hundred gallons per minute can be carried 30 feet high by a pump having discharge and suction pipes each of 18 inches diameter, wheel 36 inches in diameter, with 84 horse power. On account of the simplicity of the construction there is scarcely any loss of power from friction, and it is estimated that the discharge of water is fully equal to 90 per cent, of the driving power. As the discharge space is equal to the submission aperture, the pump can never become chocked with sand or mud, or by any kind of floating debris; and it is confidently predicted that its introduction will effect a revolution in the business of raising water. The pump, according to size, may be applied to house use, factories, fire engines, sailing vessels or steamships, draining the fields, mines quarries, floating docks, dry docks, and canals, water-works, &c., raising 100,000 gallons per minute, at any required elevation, with a sufficient degree of motive power. The size of the pump, whose performance at the navy yard we have stated above, is only about 3 1-2 feet square. The agents of the Union Power Company Messrs. Gwynne & Havens of St. John street, New York keep constantly on hand twelve sizes capable of discharging from 25 to 15,000 gallons per minute, at an elevation not exceeding 480 feet.—*Boston Post.*

NEVER condemn a friend unheard, or without letting him know his accuser, or his crime.

MILL DRIVEN BY ARTESIAN WELLS.

The following account of a mill driven by water from artesian wells, is taken from "The Beacon," of Greensboro,' Ala.—it will surprise not a few of our readers. "At Millwood, Dr. Withers has a mill which is supplied with water from six Artesian Wells, situated in the premises at distant from the Mill varying from some 50 to 200 yards, ranging in depth from 300 to nearly 600 feet, and affording nearly 1000 gallons of water per minute. The water flows from all the wells in a common reservoir and is conveyed thence to the Mill by an acqueduct under ground, and is received into a box or reservoir, whence it falls on a reaction wheel 40 feet below, and thus puts the Mill in motion. After acting on this wheel the water is conveyed to the river by means of a Tunnel, dug through the limestone rock, 240 feet in length, and at the highest point, upwards of 50 feet in depth. The Tunnel is 5 feet 8 inches deep, by 4 wide.

As the water is no where visible under the Mill, and empties into the river at a point not seen from the Mill, some 50 odd feet below the top of the bluff, the Mill when in motion presents to the superficial observer the appearence of a self-acting piece of machinery.

The reaction wheel is one of Whitelaw & Stirrat's, and was manufactured at the West Point Foundry. It is only 30 inches in diameter, with two apertures for the escape of the water 1 by 4 inches. It makes 450 revolutions per minute, and the saw 150 strokes, cutting about 2000 feet of lumber per day. The wheel is calculated for running two saws, though only one has been yet attached. The entire machinery works finely, and appears to be constructed on the most approved principles.

ENIGMA.

I AM a character well known in England, and there are few, either high or low, rich or poor, that are not acquainted with me. I shun cities and towns, and take up my abode towards the extremity of a village. I am a stranger to virtue and innocence, therefore with the fair sex I never appear. In respectable society I am never admitted, but in a gang, among gipsies and beggars, I am a principal character, and without me smuggling would do nothing. I never appear in the day-time, but in the middle of night and late in the evening, and *always* in disguise. I am fond of gaming and always end in cheating, stealing and plundering. It is the opinion of Burns, that I should be put in jail, but I was certainly never there yet, and from what I have said you may suppose me some thief or pickpocket, but to prove that I am neither, I delight not in a crowd, and no sooner appear before one than it is gone.

MAKE A BEGINNING, OR YOU WILL NEVER HAVE AN END.

The first weed pulled up in the garden, the first seed put in the ground, the first dollar put in the savings'-bank, and the first mile travelled in a journey, are all very important things; they make a beginning, and thereby a hope, a promise, a pledge, an assurance are held out that you are in earnest with what you have undertaken. How many a poor, idle, hesitating, erring outcast is now creeping and crawling his way through the world, who might have held up his head and prospered, if, instead of putting off his resolutions of amendment and industry, he had only made a beginning! A beginning, and a good beginning, too is necessary:

Had not the base been laid by builders wise,
The pyramids had never reach'd the skies.

"A FACT WORTH KNOWING."

Under this head a New York paper publishes the following from an authentic source. If it should prove equal to its profession, we have several silvery headed friends who would like to avail themselves of such a convenient mode of being "done brown," or almost any other color:—

A distinguished General (Twiggs) returned from the Mexican war covered with "glory." He had, however, two marks of hard service which laurels could not hide—as they did Cæsar's baldness. One was a head as white as wool; the other a cutaneous eruption on his forehead. For the latter he was advised to try a mixture of sulphur, sugar of lead and rose water. In applying it some of the mixture moistened the hair on his forehead, and after awhile this part of his hair resumed its original color. He then applied the mixture to all his hair, and it became, and it is now, of its primitive sandy hue. He communicated the fact to some of his friends in Washington —especially to some ex-members, who are widowers and seeking preferment—and it has been found efficacious in every instance. It does not dye the hair, but seems to operate upon the roots, and restore the original color.

The receipt is as follows:—1 drachm Lac Sulphur, 1 drachm Sugar of lead, 4 ounces of Rose water, mix them, shake the phial on using the mixture, and bathe the hair twice a day for a week, or longer if necessary.

GERMAN MARRIAGES.

MARRIAGE in Germany is preceded by the following form and ceremonies, and it is by no means an easy affair after all; 1st, proposal; 2nd, betrothal; 3d, a public family dinner or supper of announcement; 4th, the testimonials required of government—being, 1, a certificate of vaccination; 2, a week-day school ticket, in proof of regular attendance there; 3 a certificate of attendance on religious teacher; 4, a certificate of confirmation; 5, a conduct certificate; 6, a service book: 7, a *wander back* (this refers in the compulsory travels of the handicraft men;) 8, an apprentice ticket; 9, a statement as to propriety, which if not considered to be satisfactory, destroys the whole; 10, a permission from the parents; 11, a residence permission ticket; 12, a certificate as to the due performance of miltia duties; 12 an examination ticket; 14, a ticket of business, or occupation, at the time. The higher class have even more difficulties than these. Thus, a Bavarian officer cannot marry until he has deposited enough to provide £40 per annum for the maintenance of his future family.

WHAT A MERCHANT SHOULD BE.

You may pay your debts punctually, says Gilbert, you may defraud no man, and yet may act dishonorably. It is dishonorable to give your correspondents a worse opinion of your rivals in trade than they deserve—or to sell your commodities for less than their real value in order to get away your neighbor's customers—or to purchase at higher rates than the market price, for the purpose of raising the market on another buyer—or to draw accommodation bills and pass them to your banker for discount, as if they arose out of real business transactions. You act dishonorably in every case wherein your external conduct is at variance with your real opinions. You act dishonorably if, when carrying on a prosperous trade, you do not allow your servants and assistants, through whose exertions you obtain your success, to participate in your prosperity; as also, if after you have become rich, you are unmindful of the favors you received when poor.

CORK.

Many persons see corks used daily, without knowing whence came those useful materials. Corks are cut from large slabs of the cork-tree, a species of oak, which grows wild in the countries of south Europe. The tree is stripped of its bark at about sixteen years old; but before stripping it off, the tree is not cut down as in the case of the oak. It is taken while the tree is growing, and the operation may be repeated every eight or ninth year; the quality of the bark continuing each time to improve as the age of the tree increases. When the bark is taken off, it is singed in the flames of a strong fire, and after being soaked for a considerable time in water, it is placed under heavy weights in order to render it straight. Its extreme lightness, the ease with which it can be compressed, and its elasticity, are properties so peculiar to this substance, that no efficient substitute for it has been discovered. The valuable properties of cork were known to the Greeks and Romans, who employed it for all the purposes for which it is used at present, with the exception of stopples. The ancients mostly used cement for stopping the mouths of bottles or vessels. The Egyptians are said to have made coffins of cork, which being spread on the inside with a resinous substance, preserved dead bodies from decay. In modern times, cork was not generally used for stopples to bottles till about the close of the seventeenth century, wax being used till then for that purpose. The cork imported into Great Britain is brought principally from Italy, Spain and Portugal. The quantity annually consumed is upwards of 500 tons!

POST OFFICE BUSINESS.

THE New York Courier and Enquirer furnishes the following statistics of the regular business of the Post Office in that city. It says:

'There are made up daily in the Post Office, *four thousand four hundred and eighty mails*, more than two-thirds of which are made up thrice in each day, making over *seven thousand mails* made up for separate places, daily. These are deposited in *two hundred and sixty* separate pouches under lock. Of newspapers, there are about *two hundred large canvass bags* despatched daily, and on Wednesday and Thursday of each week, *two hundred and fifty extra bags* are despatched on each of those days, and on Friday nearly as many more. The average number of letters received at and sent from the office, daily, is between *fifty and sixty thousand.* Of newspapers, the daily average would be about *one hundred and twelve thousand.*

There are seventy-six clerks employed, and thirty carriers with their assistants. Of these, six are night clerks, who commence at 6½ P. M., and leave at 5 A. M. The day clerks commence at 5½ A. M., and all remain on duty until 4½ in the winter, and 5 in summer; the remainder of the time until the night clerks come on duty, a sufficient number remain to keep up the work of the office.

The above work, which is exclusive of any of the British, Bremen or California steamers, will give something like a correct impression of the amount of labor performed at the New York Post Office in one day.

STARTING TOO SOON.

A number of farmers started from the upper part of New Hampshire, in the winter, with loaded sleighs for Boston. They arrived at Concord on Saturday evening. During the night, there was a great thaw. In the morning, the snow was very much gone, and was rapidly diminishing. A part of them started off with their loads in the rain, and waded through the mud and water during the Sabbath. Their progress was slow ; their horses were fatigued ; their harnesses were broken ; and a variety of troubles followed them through the day. On Monday, the snow was so much gone that they had to unload and take wagons, where it was much more difficult to procure them than it would have been at Concord. On their return, they had at this place to unload again, and take their sleighs and go back the distance which they had travelled on the Sabbath, and principally on the bare ground, and where wagons would have gone with much greater ease !

Those who stopped and kept the Sabbath, on Monday, with their teams refreshed, took wagons, and went on with ease to Boston. They got their loads, and came back to Concord, at much less expense than the others. They found more snow ; took their sleighs, and were on their way home before the others had arrived. Thus the Sabbath-breakers suffered loss of time, and loss of money, and were at much trouble and fatigue, all of which might have been avoided, if they had not in their haste, started too soon.

Permanent Sabbath Document.

RECIPES.

VALUABLE RECIPE.—The best and simplest remedy against mortification is, to boil the common yellow carrot to a pulp, and apply it outwardly to the part affected, and to drink several times through the day, a tea-cup full of the water in which the carrots were boiled. This remedy, simple as it is, is most efficacious, and has never failed to cure.

ECONOMICAL AND GOOD. — CUSTARDS WITHOUT EGGS.— One quart of new milk, four table-spoonfuls of flour, two of sugar. Season with nutmeg or cinnamon, and add salt to your liking. The milk should be placed over a quick fire, and when at boiling point, the flour should be added, being previously stirred up in cold milk. As soon as thoroughly scalded, add the sugar, spices and salt. This is an excellent dish, and deservedly prized by every one who has tried it.

TO MAKE YEAST.—To two middling sized boiled potatoes add a pint of boiling water and two table-spoonfuls of brown sugar: One pint of hot water should be applied to every half-pint of the compound. Hot water is better in warm weather. This yeast, being made without flour, will keep longer, and is said to be much better than any previously in use.

Potato Pudding.----Take half a pound of boiled potatoes, beat them well with half a pound of sugar and the same of butter, the yolks of ten eggs, the whites of four well beaten, two grated biscuits, and half pint of cream, mix them well with other ingredients and pour it on a thin paste. Bake for half an hour.

PICKLING CUCUMBERS.

Put fresh cucumbers, as soon as picked from the vine, into weak brine, boiling hot, and let them remain twenty-four hours. They should then be taken out and put into the vessel in which they are kept, and vinegar boiling hot poured upon them sufficient to cover them. In three days' time the pickles will be fit for use. Pickles prepared in this way will keep an indefinite length of time and preserve all the freshness of the first picking, by paying proper attention to the vinegar. After standing some days, a scum will rise and cover the surface of the vinegar. When this takes place the vinegar should immediately be taken out and scalded, the scum skimmed off, and then, while hot, poured again to the pickles. This should be repeated until the scum has entirely disappeared and the vinegar become pure.—*Ploughman.*

POULTRY SALES.

The amount of sales of poultry of a single market in Boston, for the year 1848, was six hundred and seventy-four thousand four hundred and twenty-three dollars! The average sales of one dealer alone amounted to twelve hundred dollars per week for the whole year. The amount of sales for the whole city of Boston for the same year, was over one million of dollars.

EFFECTS OF BAD WRITING.

It is said there are, from time to time, in the Dead Letter office, London, about eleven thousand pounds annually, in cash, seeking owners. In July, 1847, four thousand, six hundred, and fifty-eight letters, (only a two month's accumulation,) all containing property, were arrested by the bad superscription of the writers.

GRAIN FIELDS OF THE WEST.

THE Cincinnati Gazette says that James Davis of Waverly, Ross county, Ohio, cultivated 1800 acres exclusively of Indian corn, and has a corn crib filled which is *three miles long*, ten feet high, and six feet wide. We presume this is one of the largest corn fields in the world, owned by a single individual. On the Great Miami Bottom, adjoining Lawrenceburg Indiana, about 25 miles below Cincinnati, there is one field, seven miles long by three miles broad, extending in fact to Aurora, which has been regularly planted down to corn for nearly half a century. Although corn is one of the most exhausting crops, no manure is ever used, and the soil is as fertile as ever. The Wabash Valley is also remarkable for the extent of its corn fields. We should be glad to see the statistics of some of the corn fields on the Illinois prairies.

EVERY man ought to aim at eminence, not by pulling others down, but by raising himself; and enjoy the pleasure of his own superiority, whether imaginary or real, without interrupting others in the same felicity.

TO THE BOYS OF AMERICA.

Boys of America, you, and the boys of Great Britain will soon be placed at the helm of great nations, which must take the lead of all peoples, tribes and tongues, in the cause of civilization and Christianity. Remember the world is looking forward with earnest expectation and hope to the time when the government shall be on your shoulders. All the wealth of science, and the progress of ages; inventions, surpassing all that have yet originated in the mind of man, and which shall bring, as it were the ends of the earth together, and make one's life and thoughts obiquitious railroad chariots, running " like the lightnings" through the central regions of Asia and Africa, now hardly explored; commerce with nations and seaports now scarcely known by name to the civilized world; enterprises of Christian benevolence, of wide-reaching philanthropy, to which the present are mere dew drops to a river; the power of mind, acting upon brute force and barbarous men—all these elements of moral might will be put into your hands when you shall come to be MEN.

Now, boys of America, would you be first and foremost among these men? Would you stand before the whole race as the captains of their salvation from systems of despotism that have crushed them in the dust. Then let the first act of your administration be to abolish an old pagan custom that has beggared the world, and filled it with ignorance, misery and vice. I mean the whole War-system, especially the preparations for war in time of peace. And let your charity begin at home. Look into the ledger of the United States, and see how this war-breeding system has swallowed up the revenue of the country since the Revolution. From 1791 to 1832 the aggregate of our expenditures, with less than three years of actual warfare, was 842,250,891 dollars; and 805,092,844 dollars of this sum were worse than thrown away in compliance with the old heathenish maxim: "In time of peace prepare for War"—all swallowed up by the Army and Navy, which during that whole period, did not save a life, or add an inch to the territory, or a cent to the wealth, or the slightest iota to the true honor, glory and happiness of the Union. Just think of it for a moment—during a period of about 40 years, all the other expenses of carrying on this Government amounted in the whole to only 37,138,047 dollars, while 805,092,844 dollars were thrown into the bottomless gulf of war preparations in time of peace!!!—Take your slates and see how you could have disposed of this vast sum of money wrentched from the hands of the poor laboring people in this and other countries.

The great Erie Canal, extending from Albany to Buffalo, a distance of 363 miles cost originally 7,143,789 dollars. It was considered almost the wonder of the age when it was opened. The whole country held a kind of jubilee at its completion; and cities and towns grew up as in a single night, where a few years before was nothing but an uncultivated wilderness. Now, how many of such public works as this might have been constructed for the sum which the United States have paid for preparations for wars which never came?

ELIHU BURRITT.

A DOG IN PARTICULAR.

Most children are fond of dogs, and well they may be, for the dog has always been the faithful friend of children.

I have thought our young readers, and perhaps some of the older ones, might be as much interested as I in a certain knowing dog who lived in the city of Norwich, Conn. He is a fine St. Bernard, and his name is Major. I was led to seek his acquaintance by seeing him frequently pass in the street with a basket and various articles in his mouth, making his way to his master's house about two miles from town. At such times he is a pattern for all little boys and girls who may have been sent on errands; for although a very good natured obliging dog, he resists all invitations both from other dogs and children to play by the way. If you ask him to "stop just a minute," he does nothing more than turn his head and look in your face with a very sober countenance, and trots straight on as if he would say, "mind your own business and I'll mind mine."

The owner of this dog told me the other day that one morning while at work in his garden, wishing for his hoe, he called to his little boy and said, "Henry bring me the hoe." The lad, not hearing at once, the father called again still louder, "Henry bring me the hoe." Major, who was present, immediately started off and shortly came back with the hoe in his mouth. Now this is rather a tough story, you will say, but it is true nevertheless, and may be explained in the following manner.

Dogs have sharp ears and good memories. Now Mr. P. was in the habit of working in his garden, and had often called to Henry to bring him the hoe. Major being present hearing the words and seeing Henry bring the hoe, learned to associate these sounds and that implement together, just as a child does when first learning the names of objects. Why should not the dog learn the word hoe as well as his own name, Major?"

One would think this animal had as much care for his master's health as a dutiful wife; for if he steps into the street without his hat, Major is sure to follow him with it, if within his reach.

One more instance of his sagacity I will relate to show that his intelligence may be turned to good account. One summer afternoon Mr. P. with his children and the dog took a ramble in the woods. Little Florence carried in her hand a whalebone cane to which she was much attached, and by means of which Major would sometimes, in his playfulness, pull her up the hills. After a walk of several hours, just at dark, they reached home, and then for the first time Florence missed her cane. The gentleman called Major, laid his hand upon his own cane and then upon the little girl, and sent him off. In a short time back came the faithful dog with the cane.

These facts may suggest to the children who may read them, that if the dog is so intelligent, he is worthy at all times of kind, I had almost said of respectful treatment.—To the owners of dogs may it suggest that the animal is sufficiently intelligent to be taught good manners. When I go to a house and am met without by a surley, barking dog, I cannot feel quite sure of a cordial welcome within. The old saying "*Love me, love my dog,*" may be taken in more senses than one. The dog is not beyond the influence of the example of those who ought to be his betters, and to some extent may be known by the company he keeps.—*Correspondent Congregational Journal.*

WHEN WERE THE UNITED STATES DECLARED TO BE FREE AND INDEPENDENT.

The last number of the Princeton Magazine, contains a notice of Christopher Marshal's Diary, recently published in Philadelphia, in which occurs the following passage:

"There is one entry in the diary which certainly requires explanation. While the entry on the fourth of July, 1776, contains a minute account of many current events, not the slightest allusion is made to the fact that Independence was that day declared, but in the entry of July 2d, Mr. Marshal says:

"*This day* the Continental Congress declared the United States Free and Independent States."

A reference to the Journals of Congress would readily have furnished the explanations necessary, and as others may feel interested in the subject, or not be aware of the course pursued by the Continental Congress, in perfecting the Declaration of Independence, the following brief narration is compiled from the Journals and other sources.

The resolution declaring the Colonies Independent, was introduced by Richard Henry Lee of Virginia, and seconded by John Adams of Massachusetts, on Friday, the 7th of June, 1776. It was as follows:

"That the United Colonies are, and of right ought to be, free and independent States, that they are absolved from all allegiance to the British Crown, and that all political connection between them and the State of Great Britain is, and ought to be totally dissolved."

The consideration of the resolution was postponed until next day, the 8th, and the importance of the measure led Congress to impose on the members a punctual attendance. No determination being arrived at, the subject was postponed again to Monday, the 10th; when the resolution was agreed to in Committee of the Whole, reported to the Congress, and the further consideration postponed until the 1st of July, the following signifigant language being added to the resolution:

"And in the meanwhile, *that no time be lost, in case the Congress agree thereto*, that a committee be appointed to prepare a declaration, to the effect of the said resolution."

This committee was appointed the next day, and consisted of Messrs. Jefferson, Adams, Franklin, Sherman, and R. R. Livingston.—The Committee submitted their draft of the declaration on Friday, the 29th, and after it was read, it was laid upon the table.

On the first of July, the subject came up in Committee of the whole, but further action on the resolution, at the reqnest of a colony was postponed until the 2d, *when it was taken up and agreed to*: The Declaration was discussed during the second, the third, and the fourth, when it was adopted, and by order of Congress engrossed and signed by the members present. *Independence was, therefore, declared by Resolution of Congress, on the 2d of July*, but the form in which it was to be proclaimed to the world, was not adopted until the fourth: and, as we are wont to do at the present day—Mr. Marshal thought more of the passage of the measure by Congress, than of its official announcement.

It will be observed from the foregoing, that the resolution of Independence, and the declaration, were both introduced in Congress, on that ill-omened day of the week, *Friday*.

WHAT A PRUDENT WIFE DID.

A FACT which I came in possession of a couple of years ago, may illustrate the character of the New Englanders, and reveal the origin of some branches of their profitable business. S. W. was the son of our country clergyman, and was accustomed to laboring on a farm in summer and keeping school in winter. He was moral, industrious and frugal, and took a wife possessing the same qualities, together with a shrewd propensity to calculate the cost of all articles of living. One day her husband brought home the cloth and trimmings for a new coat. The wife inquired the price of the buttons, which she noticed were made of cloth "lasting," or, more fully, "everlasting," covered on to wooden button mould. She thought she could afford a good button made by hand, for less money. The next day, like the true daughter of a yankee, she tried "the thing out." She bought the cloth by the yard, and the mould by the dozen, and in a week she had better buttons, at a less price, in market.

The thing would pay. S. W. soon left farming and school-keeping, bought the cloth, which his wife cut into button-covers, and button-moulds, hired the women and girls of the neighboring towns to make them up, and sold them at great profits. Soon another entered into partnership with him, and invented machinery to do the work. Then the plain lasting was changed to figured velvet, and satin, and twist. Improvement on improvement in machinery was made, till they equalled the best English, or French, or German buttons. S. W. now owns one of the sweetest villages on the Connecticut valley, and almost supplies the United States with buttons for coats and overcoats. He has endowed an academy munificently; has contributed like a prince to the funds of a highly distinguished and useful female seminary, and has rescued a noble college from embarrassment. So much for the carefulness of a prudent wife, and so much for a disposition to earn a living in some way, rather than thrive in idleness on the hard and too often unrequited toil of others. — *Correspondent of the National Era.*

VENOUS blood is dark crimson; but is restored to its red color by passing through the lungs.

HOW HOLLAND WAS GATHERED.

No description can convey the slightest notion of the way in which Holland has been gathered, particle by particle, out of the waste of waters, of the strange aspect of the country, and the incessant vigilance and wondrous precautions by which it is preserved. Holland is, in the fullest sense, an alluvium of the sea. It consists of mud and sand rescued from the ocean, and banked up on all sides. Produced by the most dextrous and indefatigable exertions, it can be maintained only by artificial means. If the efforts by which it was redeemed from the waters were to be relaxed, the ocean would re-assert its rights, and the whole kingdom would be submerged. The slightest accident might sweep Holland into the deep. It was once nearly undermined by an insect. Indeed, the necessity of destroying insects is so urgent, that the stork, a great feeder upon them, is actually held in veneration, and almost every species of bird is religiously protected from injury. Bird nesting was strictly prohibited by law. The drift of all this is palpable enough. But it is curious that the very existence of a great country depends upon such guarantees.—[Bentley's Miscellany.

HOW TO PRESERVE GRAPES.

The following simple method of preserving grapes fresh, we have known practised with success for several years past. Some persons use kiln dried saw dust, instead of cotton batting, and think it preferable.

For several years past I have succeeded in preserving Isabella grapes till March. We have had the luxury of having fresh grapes all through the winter, and have found them very useful and refreshing to the sick, especially to consumptive people. We pick our grapes to preserve for the winter as late as we can, and save them from the frost; gathering them when they are perfectly dry, say in the middle of a sunny day. We take a dry box—a common candle box is very convenient for the purpose, first cover the bottom with cotton batting.

We then put down a layer of grapes, one cluster after another, as thick as they can well lay. Care should be taken that no broken or green ones are in the clusters. If there are, they will cause the others to mould and decay. We then put down a layer of cotton batting, and then another layer of grapes till the box is full.

Some have been at the trouble to seal the end of each stem with wax. We do not believe it is of any service. As the stems are brittle, it is necessary to handle them with a great deal of care. When they are thus laid down, much depends upon the place where you deposit the box. It should be placed in the dryest and coolest place you have in the house. Some prefer the garret. There they are apt to wilt and loose all their flavour. Sometimes they will mould in the cellar. The principal difficulty in preserving grapes, lies in keeping them secure from the time you lay them down to the setting in of cold weather. After that there is no difficulty. I have generally had them come out as green and as fresh in the middle of winter as they were when first laid down, and with their original flavor.

So far as my experience goes, I have succeeded best in preserving them in the upper part of the cellar. I have never failed in preserving them in this way. As they may be kept, they become a more desirable fruit, and the cultivation of the vine should be greatly increased, not for the purpose of making intoxicating drink, but as an article of wholesome food. There can be no doubt but that fruit should constitute a much larger share of our diet. The free use of it relieves us in a great measure of some of our most common diseases.—*A. W., in Newark Adv.*

RESTORING AND PRESERVING THE SIGHT.

For Near Sightedness.—Close the eyes and press the fingers gently, from the nose outward across the eyes. This flattens the pupil, and thus lengthens or extends the angle of vision. This should be done several times a day till short sightedness is overcome.

For the Loss of Sight by age. — Such as require magnifying glasses, pass the fingers, or towel from the outer corner of the eyes inwardly, above and below the eyeball pressing gently against them. This rounds them up, and preserves or restores the sight.

It has already been said that this is nothing new. The venerable John Quincy Adams preserved his sight in this way, in full vigor until the day of his death. He told Lawyer Ford, of Lancaster, who wore glasses, that if he would manipulate his eyes with his fingers from their external angles inwardly, he would soon be able to dispense with glasses. Ford tried it and soon restored his sight perfectly, and has since preserved it by the continuance of this practice.—*Pennsylvanian.*

IF a jewel be genuine, care not who says it is not.

IMPROVEMENT IN THE PURIFYING OF GAS.

We learn by our excellent exchange, "The London Patent Journal," that a Mr. W. Cormack, of Haggerstone, near London, has secured a patent in England for a new improvement in purifying gas, which is well worthy of being known in America. He takes 140 lbs. of copperas and 74 of common salt, and dissolves them in 150 gallons of water. This is placed in the purifyer, a vessel for that purpose. The gas passes through this sulphomuriate of iron solution, and in doing so, it is freed from all ammonia and sulphur. The sulphur and ammonia are absorbed by the solution through which it passes. When the purifying liqour is exhausted, it must be changed. A chemist will be able to tell when this should be done by the common tests of sugar of lead and tumerick paper. The exhausted purifying liqour contains salamoniac and sulphate of soda in solution, and sulphurate of iron. Another way to use these materials, is what is termed "dry purifying." For this purpose the same quantity of copperas and salt are mixed with two bushels and a half of broken charcoal — all moistened with water, to a soft consistence. The gas is passed through this in the same way as by what is termed the "dry purifying" already mentioned.

The salt is what is new in this invention, as combined with the copperas, but the latter has long been used as a purifyer. To remove all the carbonic acid gas, lime water must be used, so the above must only be employed for the removal of ammonia and sulphur. We state this plainly, to let those of our readers know what is new, and what it can, and cannot do.

We believe the composition to be a good one, and we see wherein its application may be improved. For example;—let the solution be kept in a "purifyer" containing wool or hair, and let there be a connection with a reservoir above, containing pure dissolved composition, so that a dropping supply may be kept up from above, and the sediments be allowed to percolate through a false bottom into a receiver; this would make a constant purifyer. The gas should pass from this first purifyer into a lime purifyer, and in this way, gas of the utmost purity would be obtained—something we do not always get in New York.

[Scientific American.

France does not quite double her population in 150 years while some other countries of Europe double their population in less than half that period. The population of France is now nearly 36,000,000.

SIMILITUDES FROM THE VEGETABLE WORLD.

THE fragrant *white clover* thrives, though trampled under foot; it furnishes the bees with stores of pure honey, without asking or receiving the credit of it. Meekness and disinterestedness.

The *morning-glory* makes a fair show at sunrise, but withers as soom as it becomes hot. Excitement without principle.

To cut off the top of the *dock* does no good; its roots must be eradicated. Sin is the dock root.

The *thistle* has a beautiful blossom, but it is so armed with spines that everybody abhors it. Beauty and bad temper.

The *alder-bush* produces fragrant and delicate blossoms, but the farmer abhors it, because, if he gives it a foot, it will take a rod. Obtrusiveness.

If the grasshopper eat the *silk of the corn*, there will be no harvest. Irreligious principles in childhood.

If you go into a field of *beggar-ticks* in autumn, when you come home your clothes will reveal the fact. Vulgar companions.

Cramberries hide themselves beneath the moss; he who would find them must look for them. Modest worth.

The blossoms of the *barberry* blast grain in their vicinity. Bad temper.

Thistle seeds have wings. Bad principles.

FRESH AIR.

Man acts strangely. Although a current of fresh air is the very life of his lungs, he seems indefatigable in the exercise of his inventive powers to deprive himself of this heavenly blessing. Thus he carefully closes every cranny of his bedchamber against its entrance, and he prefers that his lungs should receive the mixed effluvium from his cellar and larder, and from a patent little modern aquarius in lieu of it. Why should man be so terrified at the admission of the night air into any of his apartments ? It is nature's overflowing current and never carries the destroying angel with it. See how soundly the delicate wren and the tender little robin sleep under his full and immediate influence ; and how fresh and vigorous, and joyous they rise amid the surrounding dew-drops of the morning. Although exposed all night long in the air of heaven, their lungs are never out of order ; and this we know by the daily repetition of their song. Look at the newlyborn bear, without an nest to go to. I lives and thrives, and becomes strong and playful, under the unmitigated inclemency of the falling dews of the night. I have here a fine male turkey, full eight years old, and he has not passed a single night in shelter. He roosts in a cherry-tree, and is always in the primest health the year throughout. Three dunghill fowls, preferring this cherry-tree to the warm perches in the hen-house, took up their airy quarters with him early in October, and have never since gone to any other roosting-place.

The cow and the horse sleep safely on the cold, damp ground, and the roebuck lies down to rest in the heather, on the dewy mountain top. I myself can sleep all night long, bareheaded, under the full moon's watery beams without any fear of danger, and pass the day in wet shoes, without catching cold. Cough and colds are generally caught in the transition from an overheated room to a cold apartment; but there would be no danger in this movement if ventilation were attended to—a precaution little thought of now-a-days.—*Waterton's Essays on Natural History.*

PRAISE is so pleasing to the mind of man, that it is the original motive of almost all our actions.

THE NEWSPAPER.

OF a newspaper, as a means of instructing the people, Lamartine says:

"Before this century shall run out, journalism will be the whole press—the whole human thought. Since that prodigious multiplication to be multiplied a thousand fold yet—mankind will write their books day by day, hour by hour, page by page. Thought will be spread abroad in the world with the rapidity of light, [this was written before the introduction of the electrict telegraph,] instantly conceived; instantly written; instantly understood at the extremities of the earth; it will spread from pole to pole. Sudden, instant burning with the fervor of soul which made it burst forth; it will be the reign of the human soul in all its plenitude; it will not have time to repeat, to accumulate a book; the book will arrive too late. The only book possible for to-day is a newspaper."

* * *

SOME persons are capable of making great sacrifices, but few are capable of concealing how much the effort has cost them; and it is this concealment that constitutes their value.

FALL MANAGEMENT OF BEES.

The month of October and November are the season when the state of the apiary will require particular attention. The hives should be examined, and those not containing honey enough for its occupants to sustain them during the winter, must be fed. An ordinary swarm of family bees will consume from fifteen to twenty pounds of honey, from October to May. If the winter be very mild, more than this quantity will be required, but not in an ordinary season. The apiarian should be able, from practice, to know at once, on raising his hives, whether the above quantity exists in them or not. Hives that have been occupied several years, will be as heavy without honey as those that have been used but one season, with from five to ten pounds ; therefore an allowance must be made for the weight of old combs and bee-bread.—*Miner.*

KNOWLEDGE is not to be gained by wishing, nor acquired by dignity and wealth. The student, whether rich or poor, must read, think, remember, compare, consult, and digest, in order to be wise and useful.

SABBATH KEEPING EMIGRANTS.

THE Home Missionary gives an account of two young christians on their way to California, who had the misfortune (or perhaps I should say the good fortune) to be thrown into the company of *very* wicked men; and as they were situated, it seemed to be necessary that they should travel with them, though against their own wishes. They proceeded without any difficulty till the Sabbath; then came the tug. The question was agitated "Shall we travel to-day?" The company said "Yes." These brethren said "No." The matter was debated, and various reasons were urged for resting on that day by the brethren, but the voice of the multitnde was, we will do evil.—The spirit of piety in these brethren said, we cannot go with this multitude to do evil, though it expose us to reproach, to danger and death. Their resolution was taken; they must stop. The company proceeded, and left them to *enjoy* the Sabbath alone. They rested and worshipped God as best they could in their loneliness. They started on Monday morning refreshed, and before Saturday night overtook their company. The question was agitated again on Sabbath morning, "Shall we proceed?"—"*Yes*," was the decision, with the exception of our pilgrims. They honored God and rested. He in whom they trusted kept them, and permitted them, before another Sabbath arrived, to overtake their company again. By this time the enemies of the Sabbath began to perceive that they had gained nothing, but had actually lost. Their teams were jaded, while those that rested on the Sabbath were vigorous. The battle was fought, and victory turned on the side of truth and right. The *company unanimously concluded to keep the Sabbath.* Jonathan and his armor bearer had not stood alone in their defence of the Lord's day.

THE UPRIGHT MAN OF BUSINESS.

There is no being in the world for whom I feel a greater respect and admiration than for the upright man of business. No, not for the philanthropist, the missionary, or the martyr. I feel that I could more easily be a martyr, than a man of that lofty moral uprightness.

And let me say distinctly, that it is not for the generous man that I feel this sort of respect. Generosity seems to me a low quality, a mere impulse, compared with the lofty virtues I speak of. It is not for the man who distributes charities—who bestows magnificent donations. That may all do very well. I speak not to disparage it. I wish there were more of it; and yet all may exist with a want of the true lofty, unbending uprightness. This is not the man, then of whom I speak, but it is he who stands amidst all the interest and perilous exigencies of trade, firm, calm, disinterested and upright. It is the man who can see another man's distress as well as his own. It is the man whose mind his own advantage does not blind for an instant—who could sit a judge upon a question between himself and his neighbor, just as safely as the purest magistrate upon the bench of justice.

Ah! how much richer than ermine—how far nobler than a train of majestical authority—is that simple, magnanimous, and majestic truth?

Yes, it is the man who is true, true to himself, his neighbor and his God—true to his conscience; and who feels that the slightest suggestion of that conscience is more to him than the chance of acquiring an hundred estates.

To Pickle Onions. — Divest them of the outer tunics, and boil them in milk and water, remove the liquid and pour over them vinegar scalding hot. Permit them to remain until thoroughly pickled.

THE PIN AND THE NEEDLE.

LEM SMITH, the cute and philosophical editor of the Madison Record, tells the following witty fable, which is as good as any thing we have seen out of Æsop. A pin and a needle, says the American Fontaine, being neighbors in a work-basket, and both being idle, began to quarrel, as idle folks are apt to do:—

"I should like to know," said the pin, "what you are good for, and how you expect to get through the world without a head?" "What is the use of your head," replied the needle, rather sharply, "if you have no eye?" "What is the use of an eye," said the pin, "if there is always something in it?" "I am more active and can go through more work than you can," said the needle. "Yes, but you will not live long." "Why not?" "because you have always a stitch in your side," said the pin. "You are a poor, crooked creature," said the needle. "And you are so proud that you can't bend without breaking your back." "I'll pull your head off, if you insult me again." "I'll put your eye out, if you touch me; remember your life hangs by a single thread," said the pin. While they were thus conversing, a little girl entered, and undertaking to sew, she very soon broke off the needle at the eye. Then she tied the thread around the neck of the pin, and attempting to sew with it she soon pulled its head off, and threw it into the dirt by the side of the needle. "Well, here we are," said the needle. "We have nothing to fight about now," said the pin. "It seems misfortune has brought us to our senses." "A pity we had not come to them sooner," said the needle. "How much we resemble human beings, who quarrel about their blessings till they loose them, and never find out that they are brothers till they lay down in the dust together, as we do."

DAVID'S DESCRIPTION OF A MODERN RUMSELLER.

"*He hath said in his heart, I shall not be moved: for I shall never be in adversity.*"

"*His mouth is full of cursing and deceit, and fraud; under his tongue is mischeif and vanity.*"

"*He sittith in the lurking places of the villages; in the secret places doth he murder the innocent: his eyes are privily set against the poor.*"

"*He lieth in wait secretly as a lion in his den; he lieth in wait to catch the poor; he doth catch the poor, when he draweth them into his net.*"

"*He* CROUCHETH, *and humbleth himself, that the poor may fall by his* STRONG ONE*!*"

" *He hath said it in his heart, God hath forgotten ; he hideth his face. he will never see it.*"

If Jewett, Cary, Hunt, White, Gough, or any of our bretheren will furnish us a more accurate likeness of a modern rumseller than this, we will pay a hundred dollars for the production. It is inimitable, and cannot be equalled. It not only has the merit of accuracy, but the language, sentiment, and truth involved, are all inspired. They are spoken by God himself through the Psalmist, and let no man complain of their severity.—*New England Fountain.*

WHERE THERE'S A WILL THERE'S A WAY.

A glover's apprentice in Edinburg resolved to qualify himself for a higher profession. The relation with whom he lived was very poor and could not afford a candle, and scarcely a fire at night, and as it was only after shop hours that this young man had leisure, he had no alternative but to go into the streets at night, and plant himself with his book near a shop-window, the lights of which enabled him to read it ; and when they were put out, he used to climb the lamp-post and hold on with one hand while he read with the other. That person lived to be one of the greatest oriental scholars in the world, and the first book in Arabic printed in Scotland was his production.

BELL-BIRD.

One meets in the forests of Guiana a bird much celebrated with the Spaniards called *campanero*, or bell-bird. Its voice is loud and clear as the sound of a bell, and may be heard at the distance of a league. No song, no sound can occasion the astonishment produced by the tinkling of the *campanero*. He sings morning and evening, like most other birds; at mid-day he sings also. A stroke of the bell is heard, a pause of a minute ensues; second tinkling, and a pause of the same duration is repeated; finally a third ringing, followed by a silence of six or eight minutes. "Acteon," says an enthusiastic traveller, "would halt in the heat of the chase, Orpheus would let fall his lute to listen: so novel, sweet, and romantic is the silver tinkling of the snow-white *campanero*."

This bird is about the size of a jay, and from its head arises a conical tube of about three inches long, of a brilliant black, spotted with small white feathers, which communicates with the palate, and which, when inflated with air, resembles an ear of corn.

AFRICAN SPARTANS.

TRAVELLERS in Southern Africa have often praised the beautiful and symmetrical forms of the natives, and the people really deserve the encomiums. As they generally go nearly naked their bodies appear as they really are; and among thousand of native Zulas whom I have seen, I do not remember to have met with one marked with any important congenital deformity. Deformed persons are said to be equally rare among several other tribes of South Africa, but the explanation of this fact is by no means creditable to the moral character of the inhabitants. It appears to be their custom to destroy at birth all maimed, deformed and defective children. This work of destruction is done very secretly; and hence, in this country, we never see infants floating down our rivers, nor exposed in fields and forests to the rapacity of birds and wild beasts. When a deformed infant is to be put out of the way, its mouth and nostrils are filled with mud, ashes, or grease till life is extinct, then it is quietly buried out of sight.---*Puritan Recorder*.

REMARKABLE PHENOMENON.

The Newark Advertiser relates an account of a terrible thunder-clap which struck a house in that place :

The conductor seemed entirely too small for so tremendous a charge of electric fluid which consequently scattered from it to other conductors in the neighborhood, in the unusual globular form----balls of fire bursting through the wall of a partition in the attic, and rolling about the floor, in the presence of the frightened occupants, in a most extraordinary manner.

Several such balls also seemed to fall on the roof outside, and to roll thence into the garden. But the most remarkable effects of the lightning were exhibited in the parlor where were assembled several gentlemen and ladies. The tremendous crash of the thunder startled every one, and immediately a portion of the charge passing apparently down a flue in the centre of the house, darted through the room, filling the air with an insupportable sulphuric odor, and scattering several of the same fearful red-hot balls---two of which scorched one gentleman severely, and another singed off a great part of one lady's dress, while the shock had thrown several of them together in a corner of the room. The electric fluid also struck.

overturned and emptied a full cake basket, and broke several strings of a piano-forte before accomplishing its fearful circuit. It then left a sorely terrified group, though all sincerely thankful that no lives were lost.

A BANK WORTH HAVING.

It is a cry often heard, in these hard times, that the banks won't discount. We know a bank whose vaults are well stored with the richest treasures, which is open to all who are disposed to apply, and which, through all the pressure, has been as ready to discount as in the most prosperous times. This bank has a perpetual charter, [and is known as the *Grand Bank of Terra Firma*, an entrance to which may be found on the sunny side of most of our hills. Its keys, which you must grasp without gloves, are the plough, the spade, and the hoe. The only security that is required, is industry, endorsed by temperance ; and it seldom offers anything but substantial currency. Those who have made themselves lean by complaining of hard times, and the scarcity of money, need only try the experiment ; and the sooner they take the responsibility, the better,

HATCHING CHICKENS.

An American, named Williams, near Champigny, France, has an establishment for the artificial incubation of eggs. He has been very successful, following, as near as possible, the means adopted by the mother hen, in the application of the artificial heat. As in her case, he applies the heat from above, and following her instinct as his guide, he frequently removes the heat, leaving the eggs free to imbibe the necessary amount of oxygen. So far, his success has been complete. He finds ready sale for all his broods, which are sent to market when twenty days old. His furnaces are kept constantly at work to furnish *poulets* for the Paris markets.—*Paris Paper.*

FILING NEWSPAPERS.

One of the many things which I regret when I review my past life is, that I did not from earliest youth, at least as soon as I was able to do it, take and preserve (I believe the techincal word is " file ") some good newspaper. How interesting it would be to a sexagenarian to look into the paper which he read when he was twelve, or sixteen, or twenty years old! How many events would this call to mind which he has entirely forgotten! How many interesting associations and feelings would it revive! What a view it would give one of past years! What a knowledge it would preserve by assisting the memory! And how many valuable purposes of a literary kind even might it be rendered subservient to! How much I wish I could look into such a record while composing this article.—*Cor. British Banner.*

THE FROZEN DEAD.

THE scene of the greatest interest at the Hospice of the grand St. Bernard — a solemn, extraordinary interest, indeed,— is that of the morgue, or building where the dead bodies of lost travellers are deposited. There they are some of them as when the breath of life departed, and the death angel, with his instruments of frost and snow, stiffened and embalmed them for ages. The floor is thick with nameless skulls and bones, and human dust heaped in confusion. But around the walls are groups of poor sufferers in the very position in which they were found, as rigid as marble, and, in this air, by the preserving elements of an eternal frost, almost as uncrumbling. There is a mother and her child, a most affecting image of suffering and love. The face of the little one remains pressed to the mother's bosom, only the back part of the skull being visible, the body enfolded in her careful arms — careful in vain, affectionate in vain, to shield her offspring from the elemental wrath of the tempest.

The snow fell fast and thick, and the hurricane wound them up in one white shroud and buried them. There is also a tall, strong man, standing alone, the face dried and black, but the white, unbroken teeth, firmly set and closed, grinning from the fleshless jaws; it is a most awful spectacle. The face seems to look at you, from the recesses of the sepulchre, as if it would tell you the story of a death-struggle in the storm. There are other groups more indistinct, but these two are never to be forgotten; and the whole of these dried and frozen remnants of humanity are a terrific demonstration of the fearfulness of this mountain pass, when the elements, let loose in fury, encounter the unhappy traveller. You look at all this through a grated window; there is just enough light to make it solemnly and distinctly visible, and to read in it a powerful record of mental and physical agony, and of maternal love and death. That little child hiding its face in its mother's bosom, and both frozen to death !— one can never forget the group, nor the *memento mori*, nor the token of deathless love.—*Dr. Cheever's Wanderings of a Pilgrim.*

CHEMICAL CONTRADICTIONS.

SCIENCE, whose aim and end is to prove the harmony and "eternal fitness of things," also proves that we live in a world of paradoxes ; and that existence itself is a whirl of contradictions. Light and darkness, truth and falsehood, virtue and vice, the negative and positive poles of galvanic or magnetic mysteries, are evidences of all-pervading antitheses, which, acting like the good and evil genii of Persian Mythology, neutralize each other's powers when they come into collision. It is the office of science to solve these mysteries. The appropriate symbol of a lecture-room is a Sphinx*;* for a scientific lecturer is but a better sort of a raveler of riddles.

Who would suppose, for instance, that water—which every body knows, extinguishes fire—may, under certain circumstances, add fuel to the flame, so that the "coming man," who is to "set the Thames on fire," may not be far off. If we take some mystical grey-looking globules of potassium (which is the metallic basis of common pearl-ash) and lay them upon water, the water will instantly appear to ignite. The globules will swim about in flames, reminding us of the "death-fires" described by the Ancient Mariner, burning "like witches' oil" on the surface of the stagnant sea. Sometimes, without any chemical ingredient being added, fire will appear to spring spontaneously from water; which is not a simple element, as Thales imagined, when he speculated upon the origin of the Creation, but two invisible gases—oxygen and hydrogen, chemically combined. During the electrical changes of the atmosphere in a thunder-storm, these gases frequently combine with explosive violence, and it is this combination which takes place when "the big rain comes dancing to the earth." These fire-end-water phenomena are thus accounted for; certain substances have peculiar affinities or attractions for one another; the potassium has so inordinate a desire for oxygen, that the moment it touches, it decomposes the water, abstracts all the oxygen, and sets free the hydrogen or inflammable gas. The potassium, when combined with the oxygen, forms that corrosive substance known as caustic potash, and the heat, disengaged during this process, ignites the hydrogen. Here the mystery ends; and the contradictions are solved; Oxygen and hydrogen when combined, become water; when separated, the hydrogen gas burns with a pale, lambent flame. Many of Nature's most delicate deceptions are accounted for by a knowledge of these laws.

Your analytical chemist sadly annihilates, with his scientific machinations, all poetry. He bottles up at pleasure the Nine Muses, and proves them—as the fisherman in the Arabian Nights did the Afric—to be all smoke. Even the Will-o'-the-Wisp can not flit across its own morass without being pursued, overtaken, and burnt out by this scientific policeman. He claps an extinguisher upon Jack-o'-Lantern thus: He says that a certain combination of phosphorus and hydrogen, which rises from watery marshes, produces a gas called phosphureted hydrogen, which ignites spontaneously the moment it bubbles up to the surface of the water and meets with atmospheric air. Here again the Ithuriel wand of science dispels all delusion, pointing out to us, that in such places animal and vegetable substances are undergoing constant decomposition; and as phosphorus exists under a variety of forms in these bodies, as phosphate of lime, phosphate of soda, phosphate of magnesia, &c., and as furthermore the decomposition of water itself is the initiatory process in these changes, so we find that phosphorus and hydrogen are supplied from these sources; and we may therefore easily conceive the consequent formation of phosphureted hydrogen. This gas rises in a thin stream from its watery bed, and the moment it comes in contact with the oxygen of the atmospher, it bursts into a flame so buoyant, that it flickers with every breath of air, and realizes the description of Goethe's Mephistopheles, that the course of Jack-o'-Lantern is generally " zig-zag."

Who would suppose that absolute darkness may be derived from two rays of light! Yet such is the fact. If two rays proceed from two luminous points very close to each other, and are so directed as to cross at a given point on a sheet of white paper in a dark room, their united light will be twice as bright as either ray singly would produce. But if the difference in the distance of the two points be diminished only one-half, the one light will extinguish the other, and produce absolute darkness. The same curious result may be produced by viewing the flame of a candle through two very fine slits near to each other in a card. So, likewise, strange as it may appear, if two musical strings be so made to vibrate, in a certain succession of degrees, as for the one to gain half a vibration on the other, the two resulting sounds will antagonize each other and produce an interval of perfect silence. How are these mysteries to be explained? The Delphic Oracle of science must again be consulted, and among the high priests who officiate at the shrine, no one possesses more recondite knowledge, or can recall it more instructively than Sir David Brewster. "The explanation which philosophers have given," he observes, "of these remarkable phenomena, is very satisfactory, and may easily be understood. When a wave is made on the surface of a still pool of water by plunging a stone into it, the wave advances along the surface, while the water itself is never carried forward, but merely rises into a height and falls into a hollow, each portion of the surface experiencing an elevation and a depression in its turn. If we suppose two waves equal and similar, to be produced by two separate stones, and if they reach the same spot at the same time, that is, if the two elevations should exactly coincide, they would unite their effects, and produce a wave twice the size of either; but if the one wave should be put so far before the other, that the hollow of the one coincided with the elevation of the other, and the elevation of the one with the hollow of the other, the two waves would obliterate or destroy one another; the elevation, as it were, of the one filling up half the hollow of the other, and the hollow of the one taking away half the elevation of the other, so as to reduce the surface to a level. These effects may be exhibited by throwing two equal stones into a pool of water; and also may be observed in the Port of Batsha, where the two waves arriving by channels of different lengths, actually obliterate each other. Now, as light is supposed to be produced by waves or undulations of an ethereal medium filling all nature, and occupying the pores of the transparent bodies; and as sound is produced by undulations or waves of air; so the successive production of light and darkness by two bright lights, and the production of sound and silence by two loud sounds, may be explained in the very same manner as we have explained the increase and obliteration of waves formed on the surface of water."

The apparent contradictions in chemistry are, indeed, best exhibited in the lecture-room where they may be rendered visible and tangible, and brought home to the general comprehension. The Professor of Analytical Chemistry, J. H. Pepper, who demonstrates these things in the Royal Polytechnic Institution, is an expert manipulator in such mysteries ; and, taking a leaf out of his own magic-book, we shall conjure him up before us, standing behind his own laboratory, surrounded with all the implements of his art. At our recent visit to this exhibition we witnessed him perform, with much address, the following experiments : He placed before us a pair of tall glass vessels, each filled, apparently with water; he then took two hen's eggs, one of these he dropped into one of the glass vessels, and, as might have been expected, it immediately sank to the bottom. He then took the other egg, and dropped it into the other vessel of water, but instead of sinking as the other had done, it descended only half way, and there remained suspended in the midst of the transparent fluid. This indeed, looked like magic—one of Houdin's slight-of-hand performances—for what could interrupt its progress? The water surrounding it appeared as pure below as around and above the egg, yet there it still hung like Mahomet's coffin, between heaven and earth, contrary to all the well-established laws of gravity. The problem however was easily solved. Our modern Cagliostro had disolved in one half of the water in this vessel as much common salt as it would take up, whereby the density of the fluid was so much augmented that it opposed a resistance to the descent of egg after it had passed through the unadulterated water, which he had carefully poured upon the briny solution, the transparency of which remaining unimpared, did not for a moment suggest the suspicion of any such impregnation. The good housewife upon the same principle, uses an egg to test the strength of her brine for pickling.

Every one has heard of the power which bleaching gas (chlorine) possesses in taking away color, so that a red rose held over its fumes will become white. The lecturer, referring to this fact, exhibited two pieces of paper ; upon one was inscribed in large letters, the word, " PROTEUS ;" upon the other no writing was visible ; although he assured us the same word was there inscribed. He now dipped both pieces of paper in a solution of bleaching-powder, when the word " Proteus" disappeared from the paper upon which it was before visible : while the same word instantly came out, sharp and distinct, upon the paper which was previously a blank. Here there appeared another contradiction ; the chlorine in the one case obliterating, and in the other reviving the written word ; and how was the mystery explained ? Easily enough ! Our ingenius philosopher, it seems, had used indigo in penning the one word which had disappeared ; and had inscribed the other with a solution of a chemical substance, iodine of potassium and starch ; and the action which took place was simply this ; the chlorine of the bleaching solution set free the iodine from the potassium, which immediately combined with the starch, and gave color to the letters which were before invisible. Again — a sheet of white paper was exhibited, which displayed a broad and brilliant stripe of scarlet — (produced by a compound called the bin-iodide of murcury) — when exposed to a slight heat the color changed immediately to a bright yellow, and, when this yellow stripe was crushed by smartly rubbing the paper, the scarlet color was restored, with all its former brilliancy. This change of color was effected entirely by the alteration which the heat, in the one case, and the friction, in the other, produced in the particles which reflected these different colors ; and upon the same principle, we may understand the change of the color, in the lobster-shell, which turns from black to red in boiling ; because the action of the heat produces a new arrangement in the particles which compose the shell.

With the assistance of water and fire, which have befriended the magicians of every age, contradictions of a more marvelous character may be exhibited, and even the secret art revealed of handling red-hot metals, and passing through the fiery ordeal. If we take a platinum ladle, and hold it over a furnace until it becomes of a bright red heat, and then project cold water into its bowl, we shall find that the water will remain quiescent and give no sign of ebullition — not so much as a single "fizz;" but the moment the ladle begins to cool, it will boil up and quickly evaporate. So also, if a mass of metal, heated to whiteness be plunged in a vessel of cold water, the surrounding fluid will remain tranquil so long as the glowing white heat continues; but, the moment the temperature falls, the water will boil briskly. Again — if water be poured upon an iron sieve, the wires of which are made red-hot, it will not run through; but on the sieve cooling, it will run through rapidly. These contradictory effects are easily accounted for. The repelling power of intense heat keeps the water from immediate contact with the heated metal, and the particles of the water, collectively retain their globular form; but, when the vessel cools the repulsive power diminishes, and the water coming into closer contact with the heated surface, its particles can no longer retain their globular form, and eventually expand into a state of vapor. This globular condition of the particles of water will account for many very important phenomena; perhaps it is best exhibited in the dew-drop, and so long as these globules retain their form, water will retain its fluid properties. An agglomeration of these gloubles will carry with them under certain circumstances, so much force that it is hardly a contradiction to call water itself a solid. The water-hammer, as it is termed, illustrates this apparent contradiction. If we introduce a certain quantity of water into a long glass tube, when it is shaken, we shall hear the ordinary splashing noise as in a bottle; but, if we exhaust the air, and again shake the tube, we shall hear a loud ringing sound, as if the bottom of the tube were struck by some hard substance — like metal or wood — which may fearfully remind us of the blows which a ship's side will receive from the waves during a storm at sea, which will often carry away her bulwarks.

It is now time to turn to something stronger than water for more instances of chemical contradictions. The chemical action of certain poisons (the most powerful of all agents), upon the human frame, has pluuged the faculty into a maze of paradoxes, indeed, there is actually a system of medicine, advancing in reputation, which is founded on the principle of contraries. The famous Dr. Hahnemann, who was born at Massieu in Saxony, was the founder of it, and, strange to say, medical men, who are notorious for entertaining contrary opinions, have not yet agreed among themselves whether he was a very great quack or a very great philosopher. Be this as it may the founder of this system, which is called HOMŒOPATHY, when translating an article upon bark in Dr. Callen's Materia Medica, took some of this medicine, which had for many years been justly celebrated for the cure of ague. He had not long taken it, when he found himself attacked with aguish symptoms, and a light now dawned upon his mind, and led him to the inference that medicines which give rise to the symptoms of a disease, are those which will specifically cure it, and however curious it may appear, several illustrations in confirmation of this principle were speedily found. If a limb be frost-bitten, we are directed to rub it with snow ; if the constitution of a man be impaired by the abuse of spirituous liquors, and he be reduced to that miserable state of enervation when the limbs tremble and totter, and the mind itself sinks into a state of low muttering delirum, the physcian to cure him must go again to the bottle and administer stimulants and opiates.

It was an old Hippocratic aphorism that two diseases can not co-exist in the same body ; wherefore, gout has actually been cured by the afflicted persons going into a fenny country and catching the ague. The fatality of consumption is also said to be retarded by a common catarrh ; and upon this very principle depends the truth of the old saying, that rickety doors hang long on rusty hinges. In other words, the strength of the constitution being impaired by one disease has less power to support the morbid action of another.

We thus live in a world of apparent contradictions ; they abound in every department of science, and beset us even in the sanctuary of domestic life. The progress of discovery has reconciled and explained the nature of some of them ; but many baffle our ingenuity, and still remain involved in mystery. This much however, is certain, that the most opposed and conflicting elements so combine together as to produce results, which are strictly in unison with the order and harmony of the universe.

HEALTH.

THE INFLUENCE OF CLOTHING ON THE HEALTH OF THE SKIN. — It is a fact which must be apparent to every one, that clothing in itself, has no property of bestowing heat, but is chiefly useful in preventing the dispersion of the temperature of the body, and, in some business, in defending it from that of the atmosphere. This power of preserving heat is due to the same principle, whatever form the raiment may assume, whether the natural covering of birds and animals, or whether the most beautiful and elegant tissues of human manufacture. In every case it is the power which the coverings possess, of detaining in their meshes, atmospheric air that is the cause of their warmth.

We have an exemplification of this principle in the lightness of all articles of warm clothing, as compared with water; the boyance, for example, of a fleece of wool or the lightness of a feather. In the eider-duck or the sea-bird, it is the accumulation of warm air, within their downy covering, that defends them alike from the temperature of the water, and from its contact. The furs from the piercing regions of the north, which we prize so highly as articles of dress, are, to the animals they invest, so many distinct atmospheres of warm air and the same principle is carried out in the clothing of man. Our garments retain a stratum of air kept constantly warm by its contact with the body, and as the external temperature diminishes, we increase the number of layers by which the person is enveloped.—Every one is practically aware that a loose dress is much warmer than one that fits close, —that a loose glove is warmer than a tight one, and that a loose boot or shoe, in the same manner, bestows greater warmth than one of a smaller dimensions. The explanation is obvions ; the loose dress encloses a thin stratum of air which the tight dress is incapable of doing, and all that is required is that the dress should be closed at the upper part, to prevent the dispersion of the warm air and the ventilating current which would be established from below. The male summer dress in this climate, consists of three layers, which necessarily include two strata of atmospheric air; that of a female contains more ; and, in the winter season we increase the number to four, five, or six. As the purpose of additional layers of dress is to maintain a series of strata of warm air within our clothes, we should, in going from a warm room into the cold,put on our defensive coverings some little time previously, in order that the strata of air which we carry with us may be sufficiently warmed by the heat of the room, and may not be in the need of borrowing from out bodies. Otherwise we must walk briskly in order to supply heat, not only to keep up the warmth of the strata of atmosphere nearest ourselves but also to furnish those which we have artificially made by our additional coverings. When we have been for some time in the air, if we could examine the temperature of climate between the several layers of our dress, we should find the thermometer gradually falling as it was conveyed from the inner to the outer spaces.

These observations on dress have reference to the number of layers of which the covering is composed, but they are equally applicable to the texture of the garment itself. The materials employed by man in the manufacture of his attire, are all of them bad conductors of heat, that is to say, they have little tendency to conduct, or remove, the heat from the body; but on the contrary, are disposed to retain what they receive,—hence they are speedily warmed, and once warm, preserves their temperature for a lengthened period, and convey the sensation of warmth to the hand. They are also bad conductors of electricity, and on this account, become sources of safety in a thunderstorm.

They are all derived from the organic world, some from the vegetable and some from the animal kingdom: — for instance, hemp and flax are the fibres of particular plants, while cotton is the covering of the seed of a plant. Silk, wool, hair, feathers, and leather, are animal productions; of these materials, the first five are cheifly employed as articles of clothing, and in order to be fitted for their purpose, are spun into threads, and then woven into a tissue of various degrees of fineness and closeness. It is evident that this tissue will have the effect of retaining a quantity of air proportioned to the size of its meshes: hence besides the strata of atmosphere imprisoned between the different articles of clothing, each article is in itself, the depository of an atmosphere of its own.

Thick textures are warmer than thin ones made of the same material, because the body of air retained in their meshes is greater, as we see illustrated in blankets and woolen garments.

To the inhabitants of cold climates, feathers are a source of peculiar comfort, but from their bulk are not easily convertible into body garments.

Linen is a bad conductor and bad radiator. On this account it is that, despite its excellence to other particulars, it feels cold when it touches the skin. From the porosity of its fibre, it is very attractive of moisture, and when the body perspires, it absorbs the perspiration actively, and displaces the air, which in a dry state is held within its meshes; so that in place of an atmosphere of dry air, it becomes the means of maintaining a layer of moisture. Now, water is one of the best conductors of heat, and removes it so rapidly from the body, as to cause a general chill.—But this is not all; the moisture in the tissue of the linen has so great a capacity and attraction for heat that it continues to rob the body of more and more of that element, until the whole of the fluid is evaporated. These circumstances have caused the entire abandonment of linen as a covering next to the skin, in hot climates, where the apparel must be necessarily thin. But in temperate and cold climates we get over the inconvenience by wear ing over the linen, a woollen or leather covering in the winter, and a cotton or thin woollen in the summer.—*Treatise on the management of the Skin, by Erasmus Wilson, F. R. S.*

EARLY HISTORY OF THE USE OF COAL.

Bituminous matter, if not the carboniferous system itself, exists abundantly on the banks of the Euphrates. In the basin of the Nile coal has been recently detected. It occurs sparingly in some of the states of Greece ; and Theophrastus, in his " History of Stones," refers to mineral coal (*lithanthrax*) being found in Liguria and in Elis, and used by the smiths ; the stones are earthy, he adds, but kindle and burn like wood coals (the *anthrax*). But by none of the Oriental nations does it appear that the vast latent powers and virtues of the mineral were thus early discovered, so as to render it an object of commerce or of geological research. What the Romans termed *lapis ampelites*, is generally understood to mean our cannel coal, which they used not as fuel, but in making toys, bracelets, and other ornaments; while their *carbo*, which Pliny describes as *vehementer perlucet*, was simply the petroleum or naphtha, which issues so abundantly from all the tertiary deposits. Coal is found in Syria, and the term frequently occurs in the Sacred Writings. But there is no reference anywhere in the inspired record as to digging or boring for the mineral—no directions for its use—no instructions as to its constituting a portion of the promised treasures of the land. In their burnt offerings, wood appears uniformly to have been employed; in Leviticus the term is used as synonymous with fire, where it is said "the priests shall lay the parts in order upon the wood"—that is, on the fire which is upon the altar. And in the same manner for all domestic purposes, wood and charcoal were invariably made use of. Doubtless the ancient Hebrews would be acquainted with *natural* coal, as in the mountains of Lebanon, whither they continually resorted for their timber, seams of coal near Beirout were seen to protrude through the superincumbent strata in various directions. Still there are no traces of pits or excavations into the rock to show that they duly appreciated the extent and uses of the article. . . . .For many reasons it would seem that, among modern nations, the primitive Britons were the first to avail themselves of the valuable combustible. The word by which it is designated is not of Saxon, but of British extraction and is still employed to this day by the Irish, in their form of *o-gual*, and in that of *kolan* by the Cornish. In Yorkshire, stone hammers and hatchets have been found in old mines, showing that the early Britons worked coals before the invasion of the Romans. Manchester, which has risen upon the very ashes of the mineral, and grown to all its wealth and greatness under the influence of its heat and light, next claims the merit of the discovery. Portions of coal have been found under, or imbedded in the sand of a Roman way, excavated some years ago for the construction of a house, and which at the time were ingeniously conjectured by the local antiquaries to have been collected for the use of the garrison stationed on the route of these warlike invaders at Mancenion, or the Place of Tents. Certain it is that fragments of coal are being constantly, in the district, washed out and brought down by the Medlock and other streams which break from the mountains through the coal strata. The attention of the inhabitants would in this way be the more early and readily attracted by the glistening substance. Nevertheless, for long after coal was but little valued or appreciated, turf and wood being the common articles of consumption throughout the country. About the middle of the ninth century, a grant was made by the Abbey of Peterborough, under the restriction of certain payments in kind to the monastery, among which are specified sixty carts of wood, and as showing their comparative worth, only twelve carts of pit coal. Towards the end of the thirteenth century, Newcastle is said to have traded in the article, and by a charter of Henry III., of date 1284, a license is granted to the burgesses to dig for the mineral.—About this period, coals for the first time began to be imported into London, but were made use of only by smiths, brewers, dyers, and other artisans, when, in consequence of the smoke being regarded as very injurious to the public health, Parliament petitioned the king, Edward I., to prohibit the burning of coal, on the ground of being an intolerable nuisance. A proclamation was granted, conformable to the prayer of the petition; and the most severe inquisitorial measures were adopted to restrict or altogether abolish the use of the combustible, by fine, imprisonment, and the destruction of the furnaces and workshops! They were again brought into common use in the time of Charles I., and have continued to increase steadily with the extension of the arts and manufactures, and the advancing tide of population, till now, in the metropolis and suburbs, coals are annually consumed to the amount of about three millions of tons. The use of coal in Scotlend seems to be connected with the rise of the monasteries. . . . . Under the regime of domestic rule at Dumfermline, coals were worked in the year 1291 — at Dysart and other places along the Fife coast, about half a century later — and generally in the fourteenth and fifteenth centuries the inhabitants were assessed in coals to the churches and chapels, which, after the Reformation, have still continued to be paid in many parishes. Boethius records that in his time the inhabitants of Fife and the Lothians dug "a black stone," which, when kindled, gave out a heat sufficient to melt iron.—[Rev. Dr. Anderson's Course of Creation. *A popular view, just published, of the animated world in Pre-Adamite Times.*

As a good workman is known by the quantity of his chips, so may a penetrative mind be known by the rubbish and heap of discarded credulity by which it is surrounded.

RECIPES.

For Cleaning Light Kid Gloves.—If the gloves are not so much soiled as to require wetting they may be cleaned thus: — Scrape fine as much as a teaspoonful of French chalk. Put on the gloves as for wear, taking care that the hands be not only clean, but cool and dry. Put some of the powdered chalk into the palm of one glove, and rub the hand and fingers together, just as if the chalk were soap employed in washing the hands. In this way rub in all the chalk. Then take off the gloves without shaking them, and lay them aside for an hour or two, or a night, if it suit. Again put them on, and clap the hands together till all the chalk is shaken out. Fuller's earth, powdered and sifted, may be used in the same manner as French chalk, and will answer nearly as well. Or gloves slightly soiled may be cleaned by rubbing with a very clean and dry bit of india-rubber. White kide gloves, or very light stone-color, or lilac, (not whiter than what is called a French white) may be stained of a bright and delicate yellow, just the color of a cowslip, by rubbing them with the petals of the common white rose. The roses must be fresh gathered for this purpose; and the best method of applying the leaves is by putting the gloves on its proper hand, and then rubbing. If not convenient to do the whole at one time, the effect is not injured by laying them aside, and taking up again. When done, they look quite equal to new, and keep clean longer than gloves of the same color stained in the ordinary way.

If the gloves are so much soiled as to require washing, the best application is a strong lather made of curd soap with new milk ; or water will do. A very small quantity of liquid will suffice. Before wetting the glove run a strong thread through the opposite sides, close to the wrist binding. Leave it about a quarter of a yard long, and make a large knot at each end. This is to form a loop or handle by which to hang up the glove to dry, and hold it open. Having prepared the lather, put one glove on the hand, and apply the lather by means of a shaving brush or a piece of fine flannel, carrying the stroke downward, that is, from the wrist or arms to the tips of the fingers. Continue this process till the dirt disappears, though the glove appears of a dingy ill looking color. Then take a clean, soft towel, and dab it till the soap is removed.—Take off the glove, blow into it to open all the fingers, and, by means of the aforesaid loop, hang it to dry in a shady but airy place. The loop should be fixed to two pegs, or by two pegs or string, fastened to a line in such a manner as to keep the sides of the glove apart while drying. When dry, they will have regained their original color, and be smooth, glossy, soft, and shapeable. Or the gloves when cleaned as above, may be laid to dry on several folds of clean linen above and below. Limerick gloves should be washed clean, with a strong lather of soap and water applied with a brush as above. The lather must not be warmer than new milk. When dry from the lather, apply a solution of saffron, stronger or weaker, according to the color desired. A very small quantity of saffron will suffice.—Pour boiling water to it, and let it steep at least twelve hours before using. Those who are frequently cleaning this kind of gloves, may steep a drachm of saffron in half-a pint of boiling water, and when cold, put the whole into a bottle, without straining. Cork it close, and it will keep a long time for use as required.

WALPOLE PUDDING.—Scald some quinces until quite tender, pare them very thin, and scrape off the soft part, which is to be mixed with the white sugar until sweet enough and then flavored with ginger and cinnamon.—Beat up the yolk of four eggs well, and add them to a pint of cream, then stir into your quince paste, so that the whole may be pretty thick. Line a buttered mould with a nice light paste, pour in the pudding, cover in, and bake.

A plain pie-dish well buttered, lined, and trimmed with light paste may be, and is sometimes used instead of a mould. We prefer the latter mode, as it is less trouble, and looks well.

KIDNEY PUDDING.—Split and soak the kidney, season each well, make a paste of suet, flour, and milk; roll well, line a basin with it, place the kidney in, cover with the paste, and pinch up the sides. Tie the basin up in a cloth, and boil well, then turn out and serve with a good gravy, if there is not sufficient in the dish.

Some persons add a little beef-steak cut into small pieces, in order that the flavor and gravy may be improved,

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OX TAIL SOUP.—Take two large or three small tails, divide them completely at the joints, rub them with salt, and soak well in warm water. Remove after they have soaked for an hour and a half, and place in a stew-pan with a faggot of parsley, four or five onions, a dozen peppercorns, a blade of mace, a turnip, and two carrots sliced, and three quarts of water. Stew gently for two hours and a half, or until the meat is tender, then remove, cut into small pieces, which is placed in a fresh stew-pan. Thicken the soup with a little browned flour, rubbed up with a ladleful of the top-fat, and then strain it into the stew-pan containing the tails. Boil up, skim well, add mushroom-catsup, and pepper to taste, and serve hot.

MILKING COWS—A NEW METHOD.

The new method of milking which our readers may have seen something of in the papers is no joke but a practical reality. An informant of ours witnessed the operation in the farm yard of Joseph Fellows, Esq., of Geneva but a few days since. India-rubber bags were drawn over the cow's teats, which set close enough to exclude the air, in the lower end of which metalic tubes were inserted close by taps ; when the four were adjusted, the taps were withdrawn, and the milk streamed from each teat into the pail, exhausting the whole quantity in the cow's bag in half the time it would take to milk in the ordinary way. It is a useful invention, against which no valid objection can exist, and will be likely to come into general use. The prime cost of a set—four milkers we shall have to call them—cannot exceed fifty cents. They are simple and easily manufactured; when cows are stalled it would seem that one man could milk ten in fifteen minutes; if he was supplied with the apparauts for each cow.—*Rochester American.*

LEAVES AS MANURE.

LEAVES, buds, and tender branches are peculiarly rich in vegetable alkali; besides which, they contain other organic elements derived from the soil, enrich its surface, tending to prevent its exhaustion, or, when newly applied,—that is, to other ground,—to enrich it more than superficially.

Leaves—and the remark is applicable to the tender branches also—seem destined by nature for the manure of forest land, and, indeed, of ground generally wherever trees grow. The roots collect the inorganic elements essential to vegetation from the soil, penetrating deeply and widely; the leaves detain and store up a certain portion of them with other elements derived from the atmosphere, such as are requireed for their growth; and these, returned to the soil with the fall of the leaf, and there undergoing decomposition, are ready to be appropriated again, and re-administer to the process of vegetable growth.—*Farmers' Herald.*

A WORD TO FARMERS.

1 Never keep your cattle short. You can't afford it. If you starve them they will starve you; besides it is wicked. Be merciful to your beast.

2 Never hoe a great field for a little crop, or mow twenty acres for five loads of hay. You can't afford it. Enrich your land, it will pay you for it richly.

3 Take care of your tools, spades hoes, rakes, shovels, pitchforks, &c. &c., keep them housed when not in use.

4 Above all things cultivate your *heart*, as well as your soil. "Whatsoever a man soweth, that shall he also reap."

5 Keep notes of remarkable events.

6 Never build a spacious barn till you have something to put into it.

7 Good fences make good neighbors—keep out hens and pigs.

8 Cows well fed in winter, give more milk in summer—we know this from experience—try it.

9 Keep an assortment of good books Eschew novels as a poison. Take at least one good weekly paper.

LET thy discourse about God be renewed each day rather than thy meals.

LOUIS PHILLIPPE.

LOUIS PHILLIPPE, who died at Claremont England, was born Oct, 6, 1773—at 22 years was a professor in Reichenau college—-came to Philadelphia, in 1796, by means of funds furnished by the American Minister—-was a teacher in one or more cities in the United States, being quite destitute—-went to London with his two brothers, in 1800, and from thence proceeded to the continent —- married the daughter of the King of Naples, whom he leaves a widow, and who with her children, was present at his death. For several years he remained in private life. But in 1830, a few months after entering Paris was proclaimed citizen king; and for a time was popular. But two or three years ago, he had to leave Paris suddenly, and seek an asylum in England. So that, the late King of France, previous to his death, had experienced a great variety of the vicissitudes of life—-at one time, a beggar—-at another, at the head of a powerful nation—-and at last died peacefully in his bed, in a foreign country—-leaving his family with a sufficiency of this world's goods.

A grain of musk will scent a room for twenty years.

THE SUPREMACY OF THE SEAS.

EVERYTHING now conspires to render speed as indispensable to success on sea as on land. By aid of steam we have intelligence within two months from every considerable port in the world, excepting from our own Australian colonies. In the third week of October, we had California newspapers to Sept. 1. Notwithstanding the immense cost of our postal communications with the West Indies, Central America, and the Pacific, the news brought by the West India packets is generally some days out of date.

The electric telegraph intelligence is conveyed almost instantaneously between Boston and New Orleans, "beating time" by half an hour. The completion of the continental railroad will soon shorten the journey between London and Alexandria; and there is at length some hope that the journey between Bombay and the two other Presidencies will be measured by hours. But the quicker the conveyance of intelligence and of travellers, the quicker too must be the conveyance of goods. At all events, the more certain is the swifter conveyance to take away all profit from the slower. Just at this time, when Atlantic steamers are multiplying every year railroads increasing by a thousand miles per annum in the new and the old world, and the electric telegraph seems to quicken the pace and the pulse of the world, the discovery of California drives the competition up to fever heat, and for a time threatens to put the United States at the head of the universal competition. There is no doubt that it will draw into this new and almost miraculous opening much of that enterprise which has lately been rewarded with wonderful results nearer home.

We have several times had to direct attention to the fresh, and fresh lines of steamers on the American rivers and lakes, to vast additional lengths of canal, and the endless ramifications of the railway system; as also to the new manufacturers wherever an opening offered. The rapid increase of population in the States, augmented by an annual immigration of near 300,000 from these isles, is a fact that forces itself on the notice and the interest of the most unobservant and incurious. All these promise to develop the resources of the States to such an extent as to compel us to a competition as difficult as it is unavoidable. We must run a race with our gigantic and unshackled rival. We must set our long practised skill, our steady industry, and our dogged determination, against his youth, ingenuity and ardor. It is the father who runs a race with his son. A fell necessity constrains us, and we must not be beat. Let our ship-builders and their employers take warning in time. There will always be abundant supply of vessels good enough and fast enough for short voyages. The coal trade can take care of itself, for it will ever be a refuge for the destitute. But we want fast vessels for the long voyages, which otherwise will fall into American hands. It is fortunate that the Navigation Laws have been repealed in time to destroy those false and unreasonable expectations, which might have lulled the ardor of British competion. We now all start together, with a fair field and no favor. The American Captain can call at London, and the British Captain can pursue his voyage to New York. Who can complain? Not we. We trust that our countrymen will not be beaten; but, if they should be, we shall know that they deserve it.—*London Times, Dec.* 1850.

SEA BATHING AND ITS EFFECTS.

A LATE writer in the Medical and Surgical Journal utters the opinion that once a week is often enough to bathe the whole body for the purpose of luxury or cleanliness. Flannel worn next to the skin at all seasons is proper, and is infinitely more healthful than all the daily baths now so fashionable. The argument by which this opinion is supported is as follows:

"The oil which is secreted by the sebaceous glands of the skin, serves the purpose of lubricating its surface. Now if this secretion is constantly removed as fast as exuded, its destined object is thereby defeated. The excretory ducts of the perspiratory glands, and the glands themselves, require this unctuous matter of the skin, to keep them in health and action. If very frequent bathing of the whole body is practiced, it must be obvious that this matter cannot be long present to perform its office. As to the assimilation of functions of the skin and lungs, it will be apparent, that when the skin acts imperfectly, or ceases to act at all, the lungs have an extra amount of duty to perform; and it is generally in just such cases that engorgement takes place, constituting inflammation or pneumonia."

While a great number of health staticians attribute the increase of modern longevity to this and that cause, we believe that the benefits of cheap flannel, linen and cotton clothes are overlooked. We can well understand how necessary it is for savages to bathe once a day, but not those who enjoy the luxury of clean linen. We are no believers in extraordinary water indulgence, but where the point is, of prudential departure from necessary and healthful bathing, is the important question.

LABOR-SAVING SOAP.

The following is a receipt for making a barrel of labor-saving soap. It was purchased of a pedlar by Mr. D. Edwards, Little Genesee, N. Y., one of our correspondents. He sends it to us for the benefit of the public, to relieve them of such taxes: —

Take 14 pounds bar soap, or 5 gallons good common soap, 3 pounds sal soda, 1 pound rosin, pounded fine, 8 ounces salt,—boil in five gallons soft water, empty it into a barrel, fill it with cold soft water, add one pint turpentine, stir it well; when cold it is fit for use.

To make hard soap, all the articles mentioned, with the exception of the water, are doubled. As a soft soap receipt the above is very good, but it is not "labor-saving," by any means. The articles employed, have long been known to every practical chemist, as good solvents of grease. We have seen some labor-saving soap receipts, far inferior to the one above, — for it is a good one and among the best we have seen.

MARTHA WASHINGTON.

BY CATHERINE ALLEN.

THE wife of Washington must ever be a subject of interest to the women of America, Her own virtues, apart from the exalted position of her husband, have made her worthy of remembrance and esteem. She was, in every respect, a model of her sex.

The maiden name of lady Washington was Martha Danbridge, and she was born of an honorable family, in the county of New Kent, Va., in May, 1732. She grew up beautiful and amiable, and at sixteen was already the belle of the district. Accomplished, at least for that day, peculiarly fascinating in her manners, and possessed of a graceful and pleasing countenance, she was sought in marriage by numerous admirers; and she finally bestowed her hand, at the age of seventeen, on Col. Daniel Parke Custis, of her native county. Two children were the fruits of this marriage, neither of whom survived the mother.

While yet in full bloom of beauty, Mrs. Custis was left a widow. With an ample fortune and unusual charms of person, she was soon again besieged by suitors. But none made any impression on her heart, until she attained her twenty-sixth year, when she accidentally made the acquaintance of Washington, then a Colonel in the service of Virginia. Her grandson, George W. Parke Custis, has given a romantic account of this first interview between Mrs. Custis and her future husband:

"It was in 1758 that an officer attired in a military undress, and attended by a body servant tall and military as his chief, crossed the ferry called William's, over the Pamunkey, a branch of the York river. On the boat touching the southern side, the soldier's attention was arrested by one of those personages who give the beauideal of the Virginia gentleman of the old regine — the very soul of kindness and hospitality. He would hear no excuse on the part of the officer, for declining the invitation to stop at his house. In vain the Colonel pleaded important business at Williamsburgh; Mr. Chamberlayne insisted that his friend must dine with him, at the very least. He promised, as a temptation, to introduce him to a young and charming widow, who chanced then to be an inmate of his dwelling. At last the soldier surrendered at discretion, resolving, however, to pursue his journey the same evening.

They proceeded to the mansion. Mr. Chamberlayne presented Col. Washington to his various guests, among whom was the beautiful Mrs. Custis. "Tradition says that the two were favorably impressed with each other, at the first interview." The conversation turned upon scenes in which the whole community had an interest — scenes which the young hero, fresh from his early fields, could eloquently describe; and we may fancy with what earnestness the fair listener "to hear did seriously incline," and how "the heavenly rhetoric of her eyes" became unconscious admiration upon the manly speaker.

The morning passed — the sun sank low in the horizon. The hospitable host smiled, as he saw the Col.'s faithful attendant, Bishop, true to his orders, holding his master's spirited steed at the gate. The veteran waited, and marvelled at delay. "Ah, Bishop," says a fair writer, describing the occurrence, "there was an unching in the drawing-room more powerful than King George and all his governors! Subtle as a spynx, he had hidden the important despatches from the soldier's sight, shut up his ears to the summons of the tell-tale clock, and was playing such mad pranks with the bravest heart in Christendom, that it fluttered with excess of new-found happiness."

Mr. Chamberlayne insisted that no guest ever left his house after sunset, and his visitor was persuaded without much difficulty to remain. The next day was far advanced when the enamored soldier was on the road to Williamsburgh. His business there being despatched, he hastened back to the presence of the captivating widow.

The marriage that followed the acquaintance thus romantically begun, took place in 1769, and was attended by all the beauty and wealth of the neighborhood. After the ceremony, Col. and Mrs. Washington repaired to Mount Vernon, where they took up their abode. By this union an addition of about one hundred thousand dollars was made to the fortune of Washington, an accession which rendered him one of the most opulent gentlemen in the old dominion.

Engrossed with each other, the young couple continued to reside on their estate, until the war of Independence breaking out, Washington was summoned to the field to lead his country's armies. Mrs. Washington, however, even now would not consent to part entirely from her husband. She accompanied him to Cambridge, and remained until the evacuation of Boston; when the army moved to New York for an active campaign, she returned for a while to Virginia.

After this it was her custom to spend her summers at Mount Vernon, rejoining the General as the army went into winter quarters. At the close of each campaign, accordingly, an aid-de-camp was sent to escort her to her husband. Her arrival at camp was always a season of rejoicing. The plain chariot, with the neat postillions in their scarlet and white liveries, were welcomed as the harbingers of rest and cheerfulness. Her example was followed by the wives of the higher officers. Thus every winter, something like society was established at head-quarters, when the smiles and affection of woman relieved, for a season at least, the gloom of disaster and despair.

Lady Washington was accustomed to say, that it had been her fortune to hear the first cannon at the opening, and the last at the closing of all the campaigns of the war of Independence. During the terrible war of 1777–8, she was at Valley Forge. The privations to which she had to submit, may be judged from a letter she wrote to Mrs. Warren, in which she says: "The General's apartment is very small; he has had a log cabin built to dine in, which has made our quarters much more tolerable than they were at first." Think of a woman of Lady Washington's fortune and position, dining now-a-days, for a whole winter, in a log cabin! During this awful season, this august female sought out the most distressed of the soldiers and alleviated their sufferings as far as possible, out of her private purse. Such was a lady of the olden time. Instead of lounging idly at home in luxury, she shared fully her husband's trials; instead of exhausting her wealth on selfish indulgence, she divided it with the hungry and sick.

The Marquis de Chastellaux, who visited the United States after the alliance with France, described the camp life of General and Lady Washington. "The head-quarters at Newburgh consist of a single house, built in the Dutch fashion, and neither large nor commodious. The largest room in it, which General Washington had converted into his dining-room is tolerably spacious, but it has seven doors and only one window. The chimney is against the wall; so there is, in fact, but one vent for the smoke, and the fire is in the room itself. I found the company assembled in a long room, which served for a parlor. At nine, supper was served, and when bed-time came, I found that the chamber to which the General conducted me, was the very parlor spoken of, wherein he made them place a camp bed. We assembled at the breakfast table next morning at ten, during which interval my bed was folded up, and my chamber became the sitting room for the whole afternoon; for the American manners do not admit of a bed in the room in which company is received, especially women. The smallness of the house and the inconvenience to which I saw that General and Mrs. Washington had put themselves to receive me, made me apprehensive lest M. Rochambeau might arrive on the same day. The day that I remained at head-quarters was spent either at table or in conversation."

When at Mount Vernon, both before and after the war, Lady Washington, like a wise house wife, busied herself in personally superintending her domestic affairs. As that was a day when cotton factories were as yet unknown, every household had to do most of its spinning, and Lady Washington kept sixteen spinning wheels constantly going. She was accustomed frequently to wear fabrics of home manufacture.

One of her favorite dresses of this home manufacture, was a cotton, striped with silk, weighing not quite a pound and a half! Her coachman, footman, waiting maid, were all dressed in domestic cloth. She was economical without being niggardly, and this from principle. She knew that in consequence of her station, she was looked up to be imitated, and she wished to show an example of moderation. Even when Washington was President, she continued this praiseworthy conduct. As late as 1796, Mrs. Wilson, inquiring for pocket handkerchiefs at a fashionable store in Philadelphia, was shown some pieces of lawn, of which Lady Washington had just purchased, and the information was added that she paid six shillings for handkerchiefs for her own use, but she went as high as seven shillings for the President's.

Her ease and elegance of manners, joined to her affability, rendered her, when the wife of the Chief Magistrate, beloved by all. Mrs. Ellis says of this period of her life: "The establishment of the President and Mrs. Washington was formed at the seat of government. The levees had more of courtly ceremonial than has been known since; but it was necessary to maintain the dignity of office by forms that should inspire respect. Special regard was paid to the wives of men who had deserved much of their country. Mr. Robert Morris was accustomed to sit at the right hand of the lady of the President at the drawing-rooms; and the widows of Greene and Montgomery were always handed to and from their carriages by the President himself, the secretaries and gentlemen of his household performing those services for the other ladies. In this elevated station, Mrs. Washington, unspoiled by distinction, still leaned on the services of her friends and cultivated cheerfulness as a duty. She was beloved as few are in a superior condition." Mrs. Warren says, in reply to one of her letters: "Your observation may be true, that many younger and gayer ladies consider your situation enviable; yet I know not one who, by general consent, would be more likely to obtain the suffrages of the sex, even were they to canvass at election for the elevated station, than the lady who now holds the first rank in the United States."

She did not long survive her august husband. Less than two years after his death, she was attacked by a fatal illness, and feeling her end approaching, called her grand-children around her, discoursed to them of religion, and amid the tears of her family, quietly resigned her life into the hands of her Creator. Her death took place on the 22d of May, 1802, and she was buried beside her husband.

Lady Washington is a model for the imitation of her sex. Her abilities were superior, her heart kind, and her conduct under the control of Christian principles. The gentle dignity of her manner inspired respect without creating enmity. In her youth, even in mature womanhood, she was distinguished for personal loveliness.

HEAVENLY TRADING.—A child in a commercial community being asked, "What is time?" replied, "Time is the principal, and the use we make of it is the interest."

THE NEW-ENGLANDER.

Happy is the household over which a New England wife presides! blessed is the child whose cradle is rocked by the hand, whose slumbers are hallowed by the prayers of a New-England mother! The order of the Roman policy is reversed. He conquered and then inhabited; the New-Englander inhabits, then gains that mastery, not by force of arms, but by mother wit, steadiness and thrift. That there should be, among us of the other races, a little occasional petulence, is not to be wondered at; but it is only superficial. The New-Englander goes forth, not as a spy or an enemy; and the gifts which he carries excites gratitude, and not fear. He soon becomes identified with his neighbors; their interests are soon his, and the benefits of his enterprising cleverness swell the advantages of the community where he has planted himself, thus tending to produce a moral homogeneousness throughout the confederacy. Yet let it be remembered that this New-England influence diffusing itself, like noiseless but transforming leaven, through the recent and future States, while it makes them precious as allies, would also make them formidable as rivals, terrible as enemies. The New-Englander loses little of his main characteristics by migration. He is as shrewd, though not necessarily as economical a calculator in the valley of the Mississippi, as his brethren in the East, and as brave as his fathers were at Lexington or Charlestown. It were the height of suicidal folly for the people of the maritime states to attempt holding as subjects or tributaries, directly or indirectly, the people between the Alleganies and the Rocky Mountains; but those who have not travelled among our prairie and forest settlement, can have only a faint idea of the filial reverence, and deferential respect, the yearning love, with which they turn to the land where their fathers sleep, and to you who guard their sepulchres. — *Dr. Bethune's Oration.*

THE DISCOVERIES AND IMPROVEMENTS OF THE PAST HALF CENTURY.

AMONG the most remarkable contributions that science has lately made to the arts, are gun cotton, an explosive material, much cheaper, and quite as effective for many purposes, as gunpowder; sulphuric ether and chloroform, those compounds which have the singular property of suspending the sensibility of the nerves to pain; the various photographic processes, made known by Daguerre, Niepce, Talbot, and others, wherein the sun becomes the painter of pictures, and the thousand-fold objects of nature are delicately preserved on imperishable tablets; and again, the innumerable methods of gilding the coarser metals with those which are more rare and valuable which are imparting so much elegance and grace to many kinds of useful arts.

It would be quite impossible to refer, even in the briefest manner, to the improvements that have been made, during the last half century, in all departments of human industry. The machines for economizing time and expense, and for facilitating the different processes in agriculture and manufacture, are numberless. Patents issued from the office at Washington alone, amount since A.D. 1800, to over fifteen thousand — the greater part of which, it is supposed, have gone into successful operation, and in one way or another, abridged the labor of human hands. Every year increases by an accelerating ratio, the number of these contrivances and inventions. In fact, mere mechanical implements promise to dispense altogether with the fatiguing and wearing kinds of human agency. The consequences of this to society are incalculable, not only in the way of cheapening products, but in relieving laborers from oppressive and degrading toils.

In spinning cotton, Bains informs us that one man can now produce as much yarn as twenty-five thousand three hundred men could have done under the old systems. "This machine-spun yarn," says Dr. Ure, "Possesses a more uniform twist, and is, in every respect, superior to hand-spun yarn. As in spinning, so in weaving. One water-wheel, or engine, will set one thousand looms to work. One of these looms will make about as much cloth as four looms worked by the hand; one famale superintends several looms, merely to supply full bobbins, and mend threads that happen to break in the process of weaving. "Nails," says Dr. Ure, "are now manufactured with little or no aid from the human hand." "The making of nails," he continues, "is no longer a handicraft operation.

Not long ago, breadstuffs were ground in a hand-mill. Two men might be able with great labor, to dry and grind a bushel of grain in a day. Now, one water-mill will turn out one thousand bushels in twenty-four hours. In book-binding, a machine has been recently invented by an Englishman, named Hancock, which dispenses entirely with the operation of stitching, sewing, sawing-in and hammering the back, or the use of paste and glue. Calico printing was long a tedious handicraft operation. It is now preformed by cylindrical machines revolving with the rapidity of light. In manufacturing steam-boilers, much of the labor is now performed by machinery. Thus we see the iron monster, like other monsters, has the faculty of reproducing itself.

"Machinery," says Dr. Ure, "is ready to accomplish everything in the manufacture of hats." In ropemaking, the machine has taken almost entire possession. The recent improvements enable four or five men to do the work of ten times that number of regular hands.

A machine for making brick is now at work in Washington. It can mould thirty thousand bricks by the power of a single horse. These are turned out perfectly dry — ready for burning. At several points on the Hudson, machines are in operation for the purpose of preparing clay for bricks — a laborious process, that used to give employment to great numbers of laborers. Even bakers are not safe, for a powerful kneading machine is coming into extensive use in England.

Two-thirds of carpenter-work and ship-building is now preformed by machinery. The letter press printer belongs, almost, to a past order of things, and machinery is even trying its hand at type-setting. In currying leather, they use a machine which actually makes one hide into two. Heavy garments of an elegant style are now made in England by the hatting process, thereby dispensing with the thimble and shears. Steam coaches now navigate the streets of London, to the great dismay of cabmen — the very scavengers are jostled out of the way by the same power — and while the Yankee Paddy moves the hill with all the ease of a Titan, the same power is hard at work in another quarter cutting out the precise machinery of Yankee clocks. It is reported, also, that one can be taught to draw in admirable perspective, by a simple machine; and that even the cunning of the sculptor is no longer secure from mechanical invasion.

These results are threatening enough to the temporary welfare of the artizan and the laborer, but it has been proved that in the end they are a vast benefit not merely to society itself, but to those who, in the outset, are molested and almost destroyed by their success. By cheapening products, and creating demands for industry in new direction, they aid the progress of society and extend the means of human well-being.

But the grandest triumphs of inventive genius, during the last half century, have been achieved within the province of Commerce. The plank road, the canal, the steamboat, and the railroad, are all the products of the last few years. At the close of the European wars of the last century, with the exception of a few military roads inherited from the Romans, and the roads of the same class constructed by Napoleon, the means of communication between distant parts, was almost confined to inland seas and the larger rivers.

It is for this reason that the maritime cities and provinces attained such disproportionate wealth. The want of modes of transit imposed insuperable obstacles to internal commerce; such roads as they had were impracticable, and the constant recurrence of desolating wars diverted the minds of both princes and the people from this most important element of civilization.

Arthur Young, who travelled in Lancashire, (England,) in 1770, has incidentally given an account of the state of the roads at that time, and his description will answer for all the roads both of England and the continent. Our own country was scarcely born, and of course had no roads. Young says: "I know not in the whole range of language, terms sufficiently expressive to describe this infernal road. Let me most seriously caution all travellers who may accidentally propose to travel this terrible country, to avoid it as they would the devil, for a thousand to one, they will break their necks or their limbs by overthrows or breaking down. They will meet with ruts, which I actually measured four feet deep, and floating with mud only from a wet summer. What, therefore, must it be after a winter. I passed three carts broken down within three miles of execrable memory."

The time consumed by common carriers over such routes, is, now-a-days, incredible. The postman from Selkirk to Edinburg, a distance of less than forty miles, was always a fortnight in going and returning. For years, after the beginning of the present century, the mail time between this city and Albany was eight days. Emigrants to the Genesee Valley, only twenty years ago, were sometimes twenty days in reaching their new purchases. There is a book still extant, written by a lady, within the memory of middle-aged persons, to describe a perilous journey she made from Boston to New York. Similar instances might be adduced without end.

Even as late as 1835 there were only seven coaches that ran daily from the capital of England to that of Scotland, and until several years within the present century, the internal transport of nearly all the trade of Great Britain was performed by wagons, at the slowest rate, and an enormous expense. The charge for carriage averaged about fifteen pence, or thirty cents, a ton, per mile. Of course all bulky articles were excluded from exchange. These articles are now carried over the same ground, the same distance, at the rate of a penny, or two cents per ton. The speed of the wagons, then, did not exceed twenty-four miles a day; steam cars now run thirty miles the hour.

Canals were known to the ancients, and have been used, in a small way, by all civilized nations, but especially in Holland, for many years. But the world did not fully awake to their importance, until it was aroused by the vehement enthusiasm with which the State of New York, in 1817, entered upon the project of the Erie Canal. Since then thousands upon thousands of miles of canal have been made by England, France, Russia, Sweden, and Belgium, as well as by our own country.

The invention of steamboats for river navigation, and of locomotives for railroads, have superseded canals, and invested them with an an air of antiquity. It was only in 1807 that Fulton put his first vessel on the Hudson, and now our rivers, our lakes, our vast inland seas, and the ocean itself, are covered with steamers, while the entire surface of North America and Europe is reticulated with net-works of iron, in which iron-ribbed and flame-breathing monsters whirl enormous loads of freight and multitudes of passengers, with the rapidity of the bird's flight! The capital invested in finished railways, alone, was estimated in 1849, at £368,567,000, while the railways in progress required £146,750,000 more! Add to this the nineteen hundred steamboats in America — the one thousand in England, and the several thousands of other nations, and we shall get some idea of the incalculable, yet silent revolutions which have sprung up from a simple series of inventions which almost any child can comprehend!

Yet more astonishing than the railway is the magnetic telegraph, whose exploits are literally miraculous, annihilating space and anticipating time. The extremities of the globe are brought into immediate contact; the merchant, the friend, and the lover converses with whom he wishes, though thousands of miles away, as if they occupied the same parlor; and the speech uttered in Washington to-day, may be read in St. Louis an hour *before* it was delivered. Could the wires be extended around the globe, we should be able to hear the news a day before it occurred. Surely, in view of such results, the gas discoveries of Mr. Paine, or the ærial inventions of Mr. Wise, seem not only possible contingencies, but unavoidable necessities!—*N. Y. Post.*

METALS IN THE UNITED STATES.

IRON is the most abundant metallic mineral our country affords. Its value is ten times the value of gold and silver, and one half the the value of all the metals produced in the United States. Iron is found in every State of the Union.

The most valuable mine is one in Salisbury, Conn., which yields 3,000 tons annually. The mines in Duchess and Columbia counties, in the State of New York, produce annually 20,000 tons of ore; Essex county, 1,500; Clinton, 3,000; Franklin, 600; St. Lawrence, 2,000; amounting in all to more than $500,000. The value of the iron produced in the United States in 1832, was $5,000,000; in 1837, $7,700,000.

In Ohio, 1,200 square miles are underlaid with iron. A region explored in 1838 would furnish iron sixty-one miles long and six miles wide; a square would yield 3,000,000 tons of pig iron; so that this district would contain 1,000,000,000 tons. By taking from this region annually, 400,000 tons (a larger quantity than England produced previous to 1829,) it would last 2,700 years, as long a distance, certainly, as any man looks ahead! The States of Kentucky, Tennessee, Indiana, Illinois, Maryland, and Virginia possess inexhaustible quantities of iron ore. In Tennessee 100,000 tons are annually manufactured. Notwithstanding our great iron resources, more than one-half of our cutlery, hardware, railroad iron, &c., is still imported from Great Britain.

It is supposed by geologists that the weekly supply of gold from our own mines, will be equal to the demand, and that our own mines will yet be more profitable than the mines of Brazil and Columbia.

The most extensive Lead Mines in the world are in Missouri, where the lead region is seventy miles long by fifty wide. These mines in 1826 produced about 7,500,000 tons, and the whole produce of the United States was 8,322,105.

It has been estimated that the quantity of iron required in England, for railroads, &c., for the current year, will be about 1,260,000 tons, which, it is supposed, will be equal to all that country will produce.

The quantity of lead manufactured in the United States in 1828 was 12,311,730 pounds; in 1829, 14,541,310 pounds; in 1838, 8,332,105; and in 1832, 4,281,867 pounds.

The copper trade, until within a year or two, has not been of much importance, as the result of the efforts made were not such as to justify any great operations. But now it appears to be attracting a good deal of attention. Whether the demand for copper stock is a fair index to the value of the copper regions, remains to be seen.

It is estimated that the quantity of iron produced in the United States, in 1845, was 919,100 tons, valued at $38,940,500. — *National Intelligencer.*

APPLES AS FOOD FOR ANIMALS.

THE value of apples, as a feeding and fattening crop, is greatly overlooked by a large portion of the farming community. It has been estimated by those who have paid attention to the subject, that two bushels of apples are equal in value to one bushel of potatoes, and that two bushels of potatoes, are equal to a bushel of corn. This is an approximation to their relative value, and near enough for all the purposes of the farmer.

When we consider the ease with which apples can be produced, and the quantity that can be grown on a given quantity of land, compared with other crops, they can hardly fail of being admitted as an important item in farm husbandry. An apple tree of medium age and size, will produce an average of ten bushels of fruit per year, and will not occupy to the exclusion of other crops, more than two square rods of ground. Two square rods, if planted with potatoes, would not yield, on an average, more than a bushel to the rod — which, with all the appliances of ploughing, seeding, hoeing and gathering, will not be worth over from two to three shillings per bushel, while the two rods of ground occupied by the tree, without a moment's labor, or care, gives ten bushels, and often a much greater yield, and is worth for feeding five times as much as the produce in potatoes or any other crop.

All wormy and wind fallen apples in the orchard, should be gathered once a week; and fed to the hogs, for two or three very good reasons: — to destroy the *larvæ* of the future insects, that have got domiciliated on your premises — to give your hogs a start preparatory to being yarded for pen fattening, and to have a clear bottom for the final gathering for winter use.

Apples cooked with potatoes give a relish to the mess, that the animals eagerly exhibit over the potatoes alone, and should be thus fed after the hogs are put up; and we think where apples are freely used that the swill should not be allowed to sour, and pass into the vinous fermentation, changing the saccharine into spiritous matter.

In travelling through the New England

States, one cannot but be struck with the great lack of orchards; rarely are to be seen young and thrifty trees, regularly planted out, but mostly old straggling patches, moss covered and decaying. Many large orchards have been cut down, during the crisis of the temperance fever, for conscience' sake — a more mistaken policy than which, fanaticism never enforced. The corn, the rye and the wheat, might with equal reason have come under the ban of the reformers, and an *ukase* been promulgated for their annihilation, as they equally contribute to form intoxicating drinks.

Sheep and horses feed and thrive well on apples, and never choke. If you can get three dollars a barrel for cider, better feed them, or sell by the barrel all the cultivated varieties, or use them in the family; they are nutritious, healthy, and the cheapest food the farm produces. — *Rural New Yorker.*

THE FIRST PRINTED BOOK.

It is a remarkable and most interesting fact that the very first use to which the discovery of printing was applied, was the production of the Holy Bible. This was accomplished at Mentz between the years 1450 and 1455.—

Of the first printed Bibles, eighteen are now known to be in existence, four of which are printed on vellum. Two of these are in England, one being in the Greenville collection. One is in the Royal Library of Paris. Of the fourteen remaining copies, ten are in England—there being copies in the libraries of Oxford, Edinburgh and London, and seven in the collections of different noblemen. The vellum copy has been sold as high as $1,300.

FLINT ENAMEL WARE.

An excellent kind of stone ware is made at Bennington, Vermont, from flint, feldspar and quartz ground fine, pressed through a fine seive, and afterwards made into a paste, and moulded into the desired form. An enamel of pure flint is added in baking, which is tinged with various delicate colors. The ware is exceedingly hard and tough, and it is as cheap as common crockery. Without the enamel, it is white, and very closely resembles that kind of composition from which statues have lately been made in France. The inventors name is Fenton, who has lately taken out a patent. The durability of this ware, not being easily broken, its elegance, and the nature of its ingredients, which makes it perfectly wholesome, for any use to which it may be put in the kitchen and pantry, are qualities which will probably soon introduce it into very general use. — *N. Y. Eve. Post.*

THE HONEY BEE.

A lecture on the Honey Bee was recently delivered before the Smithsonian Institute at Washington, by Dr. Morris. A correspondent of the National Intelligencer, in noticing the lecture, makes some interesting statements and furnishes some practical hints. Bees, said the lecturer, are villianous thieves. They enter the hive and steal away the honey. Bees never pay complimentary visits. A bee never lights on the platform of a hive not its own, with honest intentions. The careful observer will instantly detect a stranger bee. It is well known as an enemy by the guard at the entrance of the hive; for a guard, day and night, is stationed there of sufficient force to repel intruders, and will certainly do it if this entrance in size is properly adjusted to the use of the company. Attention to this subject will prevent robberies among bees. Where, however, the entrance is of an unnecessary and unreasonable size, enemies will effect an entrance in spite of the guard. Then a war of extermination or subjugation ensues. It is both fierce and dreadful. Reinforcements on both sides are rapid, and many bees are slain. The battle is soon determined, nearly always in favor of the assailants. The strong are most likely to attack the weak. The vanquished party then unite with the conquerers, assist to carry away their own honey, and go with it. Such is the war of bees. The following is the best way to manage robbing bees. Close the door of the hive five minutes; in this time the robbers will have obtained their loads, and will be pressing to the door. Open it, and let them out, and as soon as the hive is emptied of these intruders, close again so nearly that but a single bee can pass at a time. With so small a space the robbers will soon give over, after which open gradually. When robbers are thus suddenly checked, they often attack an adjacent hive, with a rush which the guard cannot resist. This should be looked to, and it will be prudent, at the time of closing the entrance to the hive first attacked, also greatly to reduce the width of the entrance to all the hives standing near, until this danger is past. These directions are given on the presumption that the hive is ventilated, as every hive should be.

Without ventilation, in a hot day five minutes exclusion of the asmospheric air may be dangerous or fatal. In this case caution must be used, but upon the same principle the intelligent apiarian can still succeed.

EIGHTEEN HUNDRED, AND EIGHTEEN HUNDRED AND FIFTY.

The population of Great Britain has nearly doubled between 1800 and 1850: at the beginning of the century it was below 11,000,000, and it is now upwards of 20,000,000. Adding the population of Ireland, the United Kingdom will number upwards of 28,000,000 inhabitants. In manufactures and commerce, there have been prodigious advances; but the money value of our imports and exports is very far from showing the increase, owing to the extraordinary reduction in the price both of raw materials and manufactured goods. For example:—in 1800 our importation of cotton wool was 56,000,000 lbs., and in 1840 it 755,000,000 lbs.; showing an increase of fourteen fold; but the increase in the value of cotton goods and yarn exported is only from £6,000,000 to £27,000,000, or four-and-a-half fold. The number of children in our day schools has increased within the half century, from 500,000 to 2,000,000,; whilst Sunday schools, also containing more than 2,000,000 children, are almost entirely the growth of the present century. Perhaps the increase in the number of newspapers may afford a fair test of the growth of popular intelligence. In 1801 the number of stamps issued for newspapers was 16,085,085, and in 1849 it was 72,446,707, being an increase of four-and-a half-fold. But the increase in the general size of the newspaper is far greater than in the number issued, and may be regarded as even a more decisive indication of the intellectual appetite of the readers and of the extent of their reading. *London Times.*

ON THE ORIGIN OF LANGUAGE.

The oldest book extant, contains the only rational cosmogony known to the ancient nations; and that book represents the first human inhabitants of this earth, not only as reasoning and speaking animals, but also in a state of high perfection and happiness, of which they were deprived for disobedience to their Creator. Moses, setting aside his claim to inspiration, deserves, from the consistency of his narrative, at least as much credit as Mochus, or Democritus, or Epicurus; and from his higher antiquity, if antiquity on this subject could have any weight, he would deserve more, as having lived nearer to the period of which they all write. But the question respecting the origin of language may be decided, without resting on authority of any kind, merely by considering the nature of speech, and the mental and corporeal powers of man.

Those who maintain language to be of human invention, suppose men, at first, to have been solitary animals, afterwards to have herded together without government or subordination, then to have formed political societies, and by their own exertions, to have advanced from the grossest ignorance to the refinements of science. But, this is a supposition contrary to all history, and all experience. There is not, upon record, a single instance, well authenticated, of a people emerging, by their own efforts, from barbarism to civilization. The original savages of Greece, were tamed by the Pelasgi, a foreign tribe, and afterwards further polished by Orpheus, Cecrops, Cadmus, and others, who derived their knowledge from Egypt and the East. The ancient Romans, a ferocious and motley crew, received the blessings of law and religion from a succession of foreign kings — and the conquests of Rome at a later period, contributed to civilize the rest of Europe. It is said, that before language could be invented, mankind must have existed for ages in large political societies, and have carried on, in concert, some common work; but if inarticulate cries, and the natural visible signs of the passions and affections, were modes of communication sufficiently accurate to keep a large society together for ages, and to direct its members in the execution of some common work, what could be their inducement to the invention of an art so useless and difficult as that of language? Men, who have not learned to articulate in their childhood, never afterwards acquire the faculty of speech, but by such helps as savages cannot obtain; and, therefore, if speech was invented at all, it must either have been invented by children, who seem incapable of invention, or by men who were incapable of speech; — a thousand, nay, a million of children could not think of inventing a language; and, therefore, reason, as well as history intimates that mankind in all ages must have been speaking animals; the young having constantly acquired this art, from imitating those that were older; we may then, in despite of every assertion to the contrary, warrantably conclude, that our first parents received the blessing of language by Divine inspiration.

There are several well authenticated cases on record of children having been found in solitary places, leading a brutish life, incapable of communicating ideas by language, and apparently completely ignorant of all the social usages of mankind. These remarkable instances exhibit how degraded and miserable is the condition of a human being, when its mind has been unformed by the example of others, and no moral or intellectual training has been bestowed upon it. The two most striking examples of this unhappy state are those furnished by the individuals known by the names of *Peter the Wild Boy*, and *the Savage of Aveyron*. The first was found in July, 1724, in a field belonging to a townsman of Hameln, naked, covered with a brownish black hair, apparently about twelve years of age, and uttering no sound. In October, 1725, he was sent for by George I. to Hanover, from whence he was escorted to London, and finally placed with a farmer in Hertfordshire, with whom he resided till his death in 1785. Peter could not be taught to speak; the plainest of the few articulate sounds he could utter were *Peter ki sho*, and *qui ca;* the two latter being attempts at pronouncing King George and Queen Caroline. He was of middle size, somewhat robust in appearance, and strong, and had a good beard. He was fond of warmth and relished a glass of brandy. Peter was first found in the act of sucking a cow, in the woods of Hanover. Queen Caroline, who greatly interested herself about Peter, was very desirous of having him educated, and employed various masters to teach him to speak. After the Queen's death, Government allowed a pension for him, and he was placed with Thomas Fen, a respectable farmer in Hertfordshire. He was accustomed in the spring of the year to wander away, subsisting on the green buds of trees, &c. His adventure in Norfolk, during one of these excursions, has been related, to which we may add that he was saved from the consequences of his supposed contumacy by some person reading in a newspaper an advertisement describing the missing Wild Boy. To prevent the recurrence of such serious adventures, he was provided with a brass collar, on which was inscribed "Peter the Wild Boy, Broadway Farm, Berkhampstead." When Peter was angry, he never attempted to strike or use his hands in any way, but always endeavored to bite. Pleasure he expressed by kissing the object that excited his admiration. When pleased he would also often dance about, shaking his brass collar, and making a humming noise which he intended for singing, but in which it was difficult to trace an air. Painting delighted him, and he would immediately kiss any object that was of vivid colors. He was passionately fond of music, and would endeavor to enter the room where any kind of music was performing, jumping and dancing to it. We have already described the extent of his vocabularly, to which he afterwards added "Hom Hen" (Tom Fen,) intended for the name of the farmer whom he recognized as his master. Though quite harmless, Peter was sometimes sullen, and would never work if desired to do so; but, if nothing were said to him, he would often assist in the farm and do more work than three other men. He usually had bread and milk for supper, and as soon as he had taken it he always went up to bed; so that if he was wished out of the way some bread and milk was given to him, and when he had finished it he would immediately go off to bed, even though it were still broad daylight. Peter could live on the simplest fare, but he much liked anything sweet, and any kind of confectionary. There is an anecdote of his having made his way into a room where all the sweet things were laid out, that were prepared for a grand fête given to Lord Chatham; and when the second course was called for, Peter was discovered, with a large bowl, in which he had mixed pastry, jellies, creams, and other niceties, employed, quite to his own satisfaction, in eating the whole collection with his hands. Peter was capable of very sincere affection; for he became attached in an extraordinary manner to the farmer who succeeded Tom Fen in the charge of him; and when this person died, he went to his bed-side, raised his hands, and endeavored to awaken him; but when he found his efforts unavailing, he went down stairs and seated himself by the chimney. What his ideas of death were, cannot be known; but he refused his food and pined away, till in a few days he actually died of grief, — for he never had any illness.

The Savage of Aveyron was found in the forest of Cawne in the year 1801, being, it was supposed, about eleven or twelve years of age. He was quite naked, and seeking acorns and roots for food, was met by three huntsmen who laid hold of him at the moment he was climbing a tree to avoid his pursuers. In 1802 he was taken to Paris, where he excited great curiosity, and his actions furnished occasion to observations of the most interesting nature.

Language is the expression of our ideas in their various relations by certain articulate sounds, which are used as the signs of those ideas and relations. By articulate sounds are meant, those modulations of simple voice emited from the thorax, which are formed by means of the mouth, and its several organs — the teeth — the tongue — the lips — and the palate. In a more general sense, the word language is sometimes used to denote all sounds by which animals of any kind express their particular feelings and impulses, in a manner that is intelligible to their own species. The Divine author of nature has endowed every animal with powers sufficient to make known all those of its sensations and desires, with which it is necessary for the preservation of the individual, or the continuance of the kind, that others of the same species should be acquainted. It is necessary for animals to know the voices of their enemies, as the voices of their friends, and the roaring of the lion is a sound, of which previous to experience, every beast of the forest is naturally afraid. Between these animal sounds and the language of men, there is however, very little analogy. Human language is capable of expressing ideas and notions which there is every reason to believe that animal instinct cannot conceive.

Every human language is learned by imitation, and is intelligible only to those who either inhabit the country where it is vernacular, or have been taught by a master, or by books; but the voices of animals are not learned by imitation, and being wholly instinctive, they are intelligible to all the animals of that species by which they are uttered, though brought together from the remotest parts of the world. That the barkings or yelps of a Lapland dog would be instinctively understood by the dogs of Spain, Calabria, India, or any other country, — but there is no reason to imagine, that a man who had never heard any language spoken, would himself speak; and it is well known that the language spoken in one country is unintelligible to the natives of another, where a different language is spoken. Herodotus, indeed, records a fact, which, could it be depended upon, would tend to overturn the above reasoning; as it infers a natural relation between ideas and certain articulate sounds. He tells us, that a certain King of Egypt, in order to discover which was the oldest language, caused two children newly born of poor parents, to be brought up by a shepherd amongst his cattle, with the strict injunction that they should never hear a human voice, and that at the end of two years, they pronounced, at the same time, the word signifying *bread.* This is one of the many fables of that credulous historian.

The exercise of cultivated reason, and the arts of civil life, have, indeed, eradicated many of our original instincts, but they have not eradicated them all. There are external indications, of the internal feelings and desires which appear in the most polished society, and which are confessedly instinctive. The passions, emotions, sensations, and appetites, are naturally expressed in the countenance, by characters which the savage and the courtier can read with equal readiness. The look serene, the smothered brow, the dimpled smile, and the glistening eye, denote equanimity and good will, in terms which no man mistakes. The contracted brow, the glaring eye, the sullen gloom, and threatening air, denote rage, indignation, and defiance, as plainly and forcibly, as revilings or imprecations. To teach men to disguise their instinctive indications of their temper, and to "carry smiles and sunshine in their face, when discontent sits heavy at their heart," constitute a great part of modern and refined education.

The words of language are either proper names, or the signs of ideas or relations; but it cannot be supposed, that the Allwise instructor, would load the memories of men with words to denote things then unknown, or the signs of ideas which they had not then acquired. It was sufficient that a foundation was laid, of such a nature, as would support the largest superstruction which they might ever have occasion to raise upon it.

The first application of names to objects, or the invention of significant words, has often been supposed to have taken its rise from the imitation of the voices of animals, or the sounds produced by various natural causes. The serpent hisses, the bees hum, the thunder peals, the tempest roars, the wind howls among the mountains; the savage listens, and imitates the sound which salutes his ears, and the word which he pronounces, serves afterwards to teach to himself and to his companions the idea of the object which first gave occasion to its utterance. To suppose words invented, or names given to things in a manner purely arbitrary without any ground or reason, is to suppose an effect without a cause. There must always have been some motive which led to the assignment of one name rather than another, and we can conceive no motive which would more generally operate upon men in their first efforts towards language, than a desire to paint by speech, the objects which they named in a manner more or less complete, according as the vocal organs had it in their power to effect this imitation. A certain bird is termed the cuckoo from the sound which it emits. When one sort of wind is said to whistle, and another to roar; a fly to buz, and falling timber to crash; when a stream is said to flow, and hail to rattle, the analogy between the word and the thing signified is plainly discernable. Thus in all languages a multitude of words are to be found that are evidently constructed, upon this principle.

Having thus briefly stated, and endeavored to prove, that language was given to man by Divine inspiration, to communicate our ideas to each other, to express our wants and our wishes and to praise the Giver—It becomes us, as rational creatures, to make the best possible use of this blessing, and avoid, as far as it is in our power, perverting this inestimable gift to any bad purpose. The best use we can make of this Divine endowment, is the cultivation of our minds, in the practice of virtue,—a thirst after knowledge,—the love of truth, and, above all, a desire to "search the Scriptures," that we may "become wise unto salvation."

SINGULAR HABITS OF MENAGERIE BEASTS.

A writer in a Cincinnnati paper describes a midnight visit to the animals of Raymond & Waring's Menagerie, in winter quarters in that city, with Driesbach, the famous keeper. He says:

"It was a sight worth walking ten miles to see. We found, contrary to the assertions of natural historians, an elephant lying down. It has always been asserted that these animals sleep standing. The different caged animals were reposing in the most graceful and classical attitudes. The lion and the tiger, the leopard and the panther, were lying with their paws affectionately twined about each other, without regard to species or nativity. In cages where is more than one animal, it is the never failing custom for one to keep watch while the others sleep. The sentry is relieved with as much regularity as in a well regulated camp of soldiers, although not, probably, with as much precision in regard to time. The sentinel paces back and forth, and is very careful not to touch or do any thing to rouse his comrades. Occasionally he lies down, but always with his head towards the front of the cage, and never sleeps until he is relieved. This singular custom, Herr Driesbach informs us, since his connexion with the Menagerie, he has never known to be violated. Thomas Cart — generally known as Uncle Tom — who is the faithful night watch of the establishment, and who is now the oldest showman in the U. States, confirms this statement.

It requires 500 pounds of hay per day to feed the two elephants alone. The carniverous animals consume from 100 to 120 pounds of meat each day. Besides this, large quantities of apples, potatoes, turkeys, &c., are daily purchased for the monkeys, birds and small animals."

THE DEPTHS OF THE ATLANTIC.

Professor Guyot, in his book entitled "Earth and Man," a work which embodies a vast deal of correct information, founded on established facts, furnishes the following statement in relation to the soundings in the Atlantic Ocean:

"Captains Seoresby and Parry found the basin of the Polar seas very deep, but unequal. Scoresby did not touch bottom, at the 76th degree of north latitude, with a sounding line of 7,200 feet in length. Capt. J. Ross went beyond 6,000 in Baffin's Bay. Science is indebted to the skilful direction of the United States Coast Survey, for a great number of very instructive soundings on the American side of the middle part of the Atlantic. One of the ablest of those engaged in this service, Capt Charles H. Davis, U. S. N., whose labors have contributed so much to a better knowledge of the true conformation of the sub-marine portion of the United States coasts, dropped the lead 7,800 feet, about 250 miles south of Nantucket; and Lieutenant G. Bache, 13,000 feet in 34 degrees north latitude. The report of Professor A. D. Bache, Superintendent of the Survey, mentions among the operations of 1848, a thermometrical sounding taken by the late Lieutenant R. Bache, off Cape Hatteras, giving a depth of 3,000 fathoms, or 19,800 feet, without reaching the bottom.

This depth, which left far behind all hitherto ascertained in these quarters, has very recently been surpassed by a sounding executed by Lieut. Walsh, U. S. N., under the direction of Lieut. M. F. Maury, director of the Observatory at Washington. On the 15th of November, 1849, east of the Bermudas 31 deg. 59 min. north latitude, and 58 deg. 43 min. 25 sec. west longitude from Greenwich, in the immediate neighborhood of the position assigned to the rocks called the False Bermudas, the weather being calm and beautiful, Lieut. Walsh, U. S. N. sunk the lead to the depth of 5,700 fathoms, or 34,200 feet, without reaching bottom. The breaking of the line alone prevented him from reaching a greater depth still, for all the circumstances seemed eminently favorable — this depth, which exceeds by 6,000 feet the deepest of the celebrated measurements of Captain J. C. Ross, is the greatest ever ascertained, and reveals, beneath the tranquil surface of the ocean, abysms which we hardly ventured to suspect.

The southern basin of the Atlantic seems to have its share of these immense depths, although some indications have given rise to the belief in the existence of high bottoms, separating this basin from that of the north. Capt. J. C. Ross found 16,000 feet in depth west of Cape Good Hope, and 27,600 without touching bottom, west of St. Helena. The first of these measurements equals the height of Mt. Blanc, and the second almost reached that of the Dhavala Girl; but it would be necessary to add Mt. Washington, with its 6,000 feet, to the height of this giant of terrestrial summits, to attain a height equal to the sounding of Lieut. Walsh. Thus the greatest known sea depth, added to the elevation of the highest mountain on the globe, gives us over 62,000 feet for the thickness of the layer of our globe, upon which our investigations have supplied some information."

WASHINGTON NATIONAL MONUMENT.

The design is a vast one, grand, massive and imposing in its proportions and extent; and yet simple, plain and unostentatious in exterior. Whatever decorations and embellishments there may be added will be within, not without. The great temple to be built around the base of the obelisk will be the repository of such works of art, taste, and utility as future ages may deposit in it, as evidences of their wealth, intelligence, and patriotism. It will be our share in this great national enterprise, at the present day, to complete the structure, leaving posterity to furnish it with such ornamental appendages as patriotism and good taste may dictate.

But the portion to which public attention is now particularly directed, is the great obelisk 500 feet high. This immense column, now in progress, must be built first, and stand independent on its own basis. Its foundation, laid in 1848, consists of a solid mass of masonry, 80 feet square at the base (in the ground) contracting by steps to a square of 60 feet at the top, where it is 25 feet high — the whole estimated to weigh 12,000 tons.

On this foundation the obelisk proper was commenced in 1849, and carried up to a height of 40 feet. Its dimensions are 55 feet square at the bottom, with walls 15 feet thick on every side, leaving a cavity within 25 feet square. The outside walls contract regularly one quarter inch per foot in height, which will leave the top of the obelisk, at 500 feet height, 34 feet square, and the walls 4 1-2 feet thick. The outer surface or face of the obelisk is composed of white marble of superior quality, cut in large blocks, and laid up with uniform regularity. The inner wall is composed of blue gneiss, a beautiful building stone of the most durable quality. The work has been carried on thus far, with the care and deliberation due to a structure of such vast magnitude, and to the patriotism of its founders; but the points of greatest difficulty are now passed, every facility for its future progress is provided; and it may be carried up 100 feet per annum, if funds be furnished, thus completing it (the obelisk) in five years.

It may be proper to repeat that this monument was commenced on the plan of voluntary contributions. Every citizen is invited to give something; the amount is left to his own patriotism and ability. More than thirty thousand contributors bear evidence that the plan is a popular one.

NAMES OF THE DAYS OF THE WEEK.

SUNDAY, the first day of the week, now generally termed Sabbath day, was called *Sun's* day, being a day dedicated to the *Sun.*

MONDAY, a compound word of *Moon*, and *day;* a day formerly sacred to that planet.

TUESDAY, is from *Tuesdaeg*, the name of a deity, that presided over combats and litigation; hence Tuesday is Court day, assize day, the day for combat or commencing litigation.

WEDNESDAY, anciently *Wodin's* day, from *Wodin*, a deity among the northern nations of Europe.

THURSDAY, from *Thor's* day; the day consecrated to *Thor*, the god of thunder.

FRIDAY, from *Friga's* day; a day consecrated to *Friga*, the venus of the north.

SATURDAY, from *Saturn's* day; a day devoted to *Saturn*, one of the most ancient of the heathen gods; the reputed son of *Cœlus* and *Terra*, (Heaven and Earth,) father of *Jupiter.*

Instead of these names the early settlers of New England used the words, first, second, third, fourth, fifth, sixth, and seventh, to denote the several successive days of the week, and the like words up to twelfth, to designate months; but when writing they more frequently made use of Arabic numerals, from 1 to 12.

BIRTH PLACE OF LIGHT.

Professor Mitchell, in a recent lecture on astronomy, explained the singular propriety of the question as to the birth-place of light. How is it that the sun flashes forever, such a flood of light, clothing all the planets with glory? He spoke of the immensity of the universe as developed by the volicity of light. At twelve millions of miles in a minute we may be ten years in reaching the nearest fixed star. But we should then see the same universe, as much as one would see the same audience here, were he to change places with the person who now sits next him. Let us travel at the speed of light five thousand years, and arrive at the verge of our own universe: let us plunge through the abyss which separates ours from the next universe; and we may go on at this rapid pace for hundreds of thousands of years, and then be no nearer than when we started, to the source of light. The telescope has penetrated space until it has taken in light which must have been in motion for thirty millions of years, at the rate of twelve millions of miles per minute! How incomprehensible, then, are these vast complications of systems innumerable, filling the realm of space on every hand, until the boldest imagination shrinks exhausted from the effort to comprehend even the millions of their number.

SEASONABLE HINT TO CONSUMERS OF COAL.

We have frequently been pained at the ignorance which prevails in reference to the proper treatment of anthracite coals. Acting upon the principle that much fuel will secure much heat, servants are wont to fill stoves and fire-places with coal, thereby suffering the noxious gases it contains to disperse themselves in the room, instead of consuming them, as it otherwise would, if a red heat were generated. The room, in such cases, is rendered extremely disagreeable, unwholesome, and in many instances, *dangerous*. The growing prejudice against anthracite coal for domestic purposes, is really without foundation. All the evils flowing from its use, are the result of carelessness and ignorance of its peculiar properties; and it only requires proper treatment to establish its superiortiy over every other known fuel, whether the product of our own or foreign mines or forests. The practice of throwing too much coal in the fire and destroying the draught necessary to consume it, leaves its pernicious effects in the very food we eat, no less than the rooms we occupy. No stove should ever contain, on an average, a greater layer than four inches of coal, and with but slight exceptions, that depth of layer would suffice for steamers or any other place where a powerful heat is required.

Coal — all coals — feed on the atmosphere. You may fill a metallic vessel with coal, and, closing it compactly, place it over a red heat, and it will fail to ignite — but suffer a draught to approach it, and it will give out a heat concentrated, regular, and incomparably powerful. Be careful, therefore, that you do not supply your furnaces too liberally — it is false economy, at best. By its sparing use, a beautiful red heat will be secured, the coal will part with its inflammable elements, and deposit the earthly matter — leaving no smoke or sulphurous gases, and proving itself the most cleanly as well as economical fuel that can be used — *Courier and Enquirer.*

THAWING FROZEN VEGETABLES.

Frozen vegetables may be thawed in such a manner that they will receive but very little injury from freezing and thawing. If the frozen substance be immersed in cold water, whose temperature is a little above that of freezing, the frost will soon be extracted without injury.

If frozen vegetables be covered up in the ground, or closely covered with moss, cloths, mats, &c., and laid in a dark cellar, the frost will be gradually extracted without material injury to the article.

By these modes of thawing, the change is gradual, hence it has but little effect. But if a frozen vegetable or fruit be put into warm or hot water, or carried into a warm room, or placed by a fire, the sudden change from a frozen to a thawing state, will destroy it as quickly as though it had been baked or boiled. Thus it appears that the thawing rather than the freezing, destroys the vegetable.—*New England Farmer.*